



Weatherford

ARRAY INDUCTION
SHALLOW FOCUSED
ELECTRIC LOG

COMPANY

MCCOY PETROLEUM CORPORATION

WELL

ERSKINE "B" #1-32

FIELD

ERSKINE NORTH

PROVINCE/COUNTY

SUMNER

COUNTRY/STATE

USA / KANSAS

LOCATION

660' FNL & 660' FEL

C NE NE

SEC

TWP

RGE

Other Services
MDN/MPD
MML

32

31 S

3 W

API Number

15-191-22661

Permit Number

Permanent Datum GL, Elevation 1278 feet

Log Measured From KB

Drilling Measured From KB

Date

08-AUG-2012

Elevations:

feet

KB

1287.00

DF

1285.00

GL

1278.00

Run Number

ONE

Depth Driller

4390.00 feet

Depth Logger

4378.00 feet

First Reading

4375.00 feet

Last Reading

266.00 feet

Casing Driller

266.00 feet

Casing Logger

266.00 feet

Bit Size

7.875

inches

Hole Fluid Type

WBM

Density / Viscosity

9.50

g/cc

54.00 CP

PH / Fluid Loss

10.50

9.20

ml/30Min

Sample Source

MUD PIT

Rm @ Measured Temp

0.32 @ 91.0 ohm-m

Rmf @ Measured Temp

0.26 @ 91.0 ohm-m

Rmc @ Measured Temp

0.38 @ 91.0 ohm-m

Source Rmf / Rmc

CALC

CALC

Rm @ BHT

0.23 @ 129.0

ohm-m

Time Since Circulation

4 HOURS

Max Recorded Temp

130.00 deg F

Equipment Name

COMPACT

Equipment / Base

13039

OKC

BOREHOLE RECORD

Last Edited: 08-AUG-2012 19:31

Bit Size
inches

7.875

Depth From
feet

266.00

Depth To
feet

4390.00

CASING RECORD

Type

Size
inches

8.625

Depth From
feet

0.00

Shoe Depth
feet

266.00

Weight
pounds/ft

24.00

REMARKS

WLS 13.02

DEPTH CONTROL: CALIBRATED MEASURING WHEEL

TOOLS RAN: SHA, MCG, MML, MDN, MPD, MFE, MAI RAN IN COMBINATION

HARDWARE: MAI: TWO 0.5 INCH STANDOFFS USED.

MFE: ONE 0.5 INCH STANDOFF USED

MDN: DUAL NEUTRON BOW SPRINGS USED.

MPD: 8 INCH PROFILE PLATE USED.

2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TOTAL HOLE VOLUME FROM TD TO 2500' = 2000 CU.FT.

ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 2500' = 1325 CU.FT.

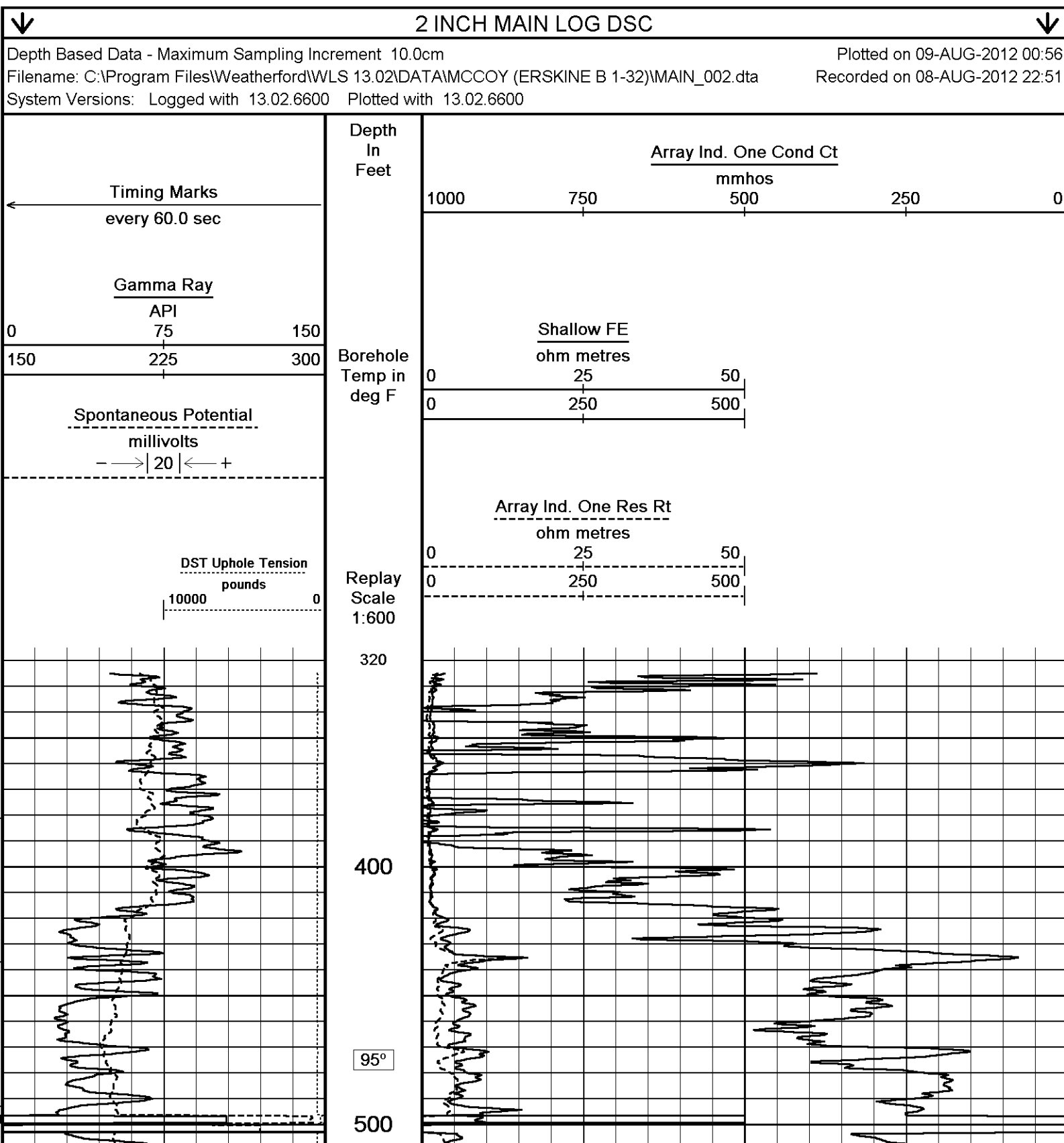
SERVICE ORDER # 3538700

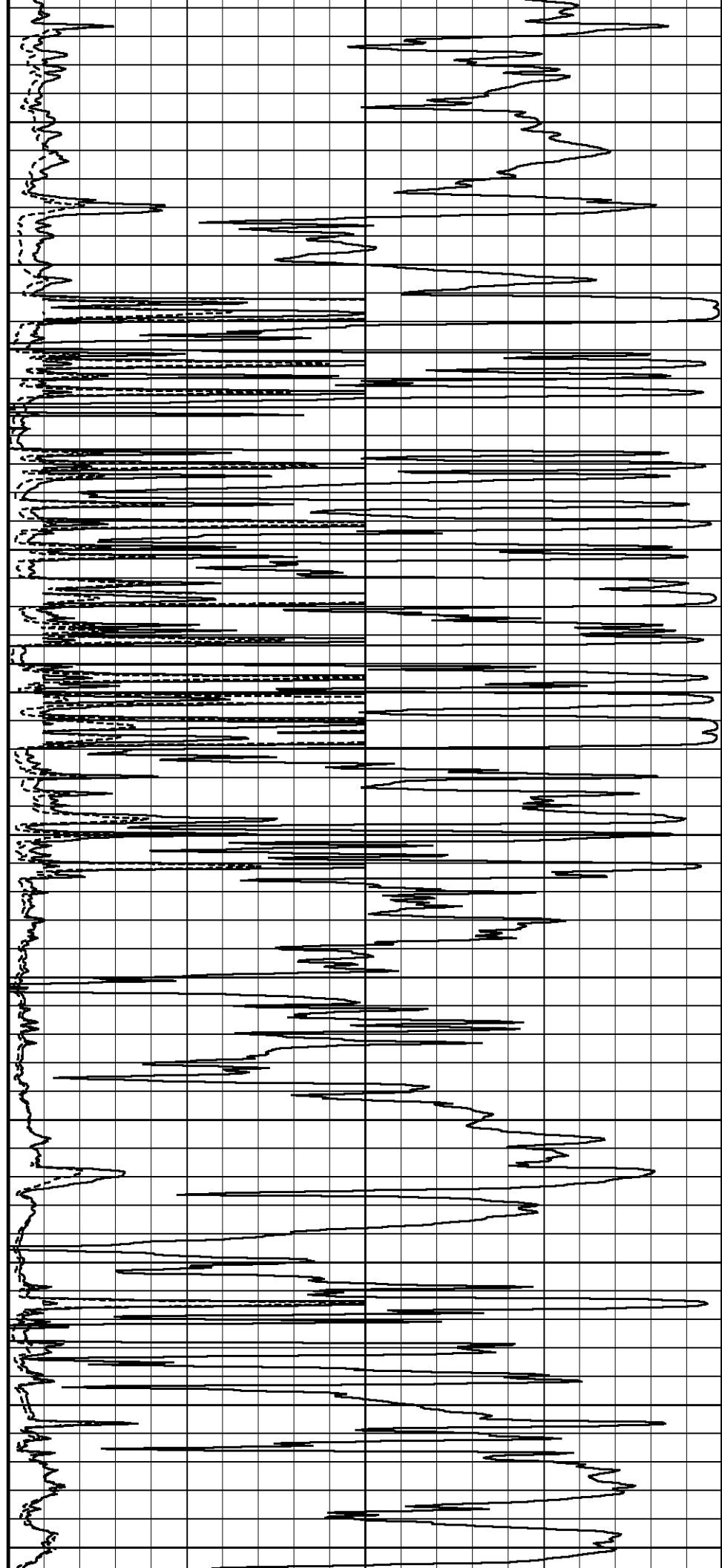
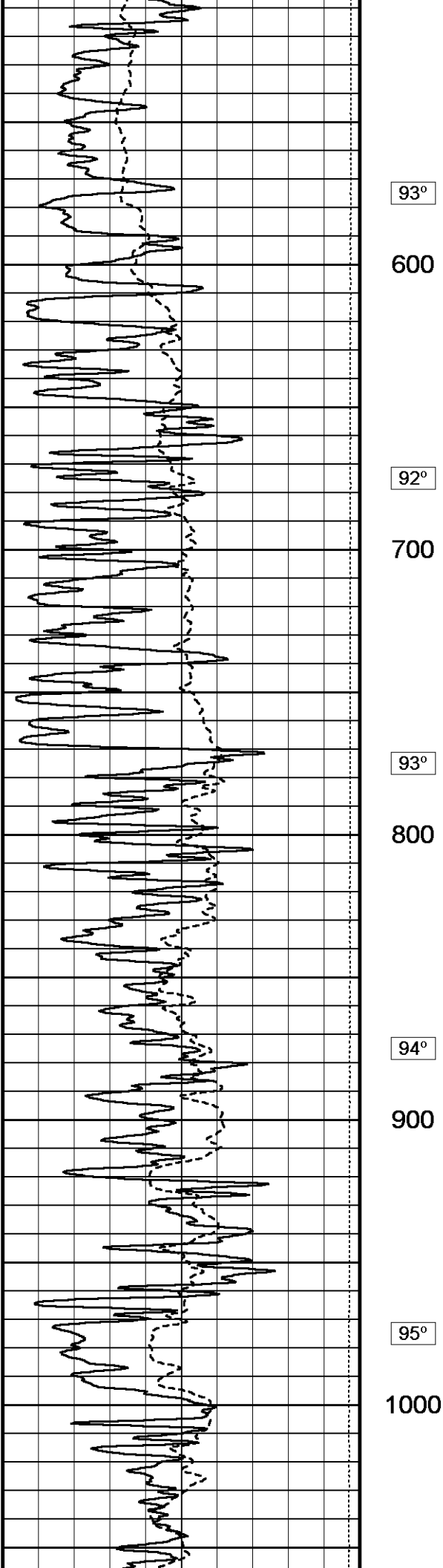
RIG: STEARLING DRILLING RIG #4

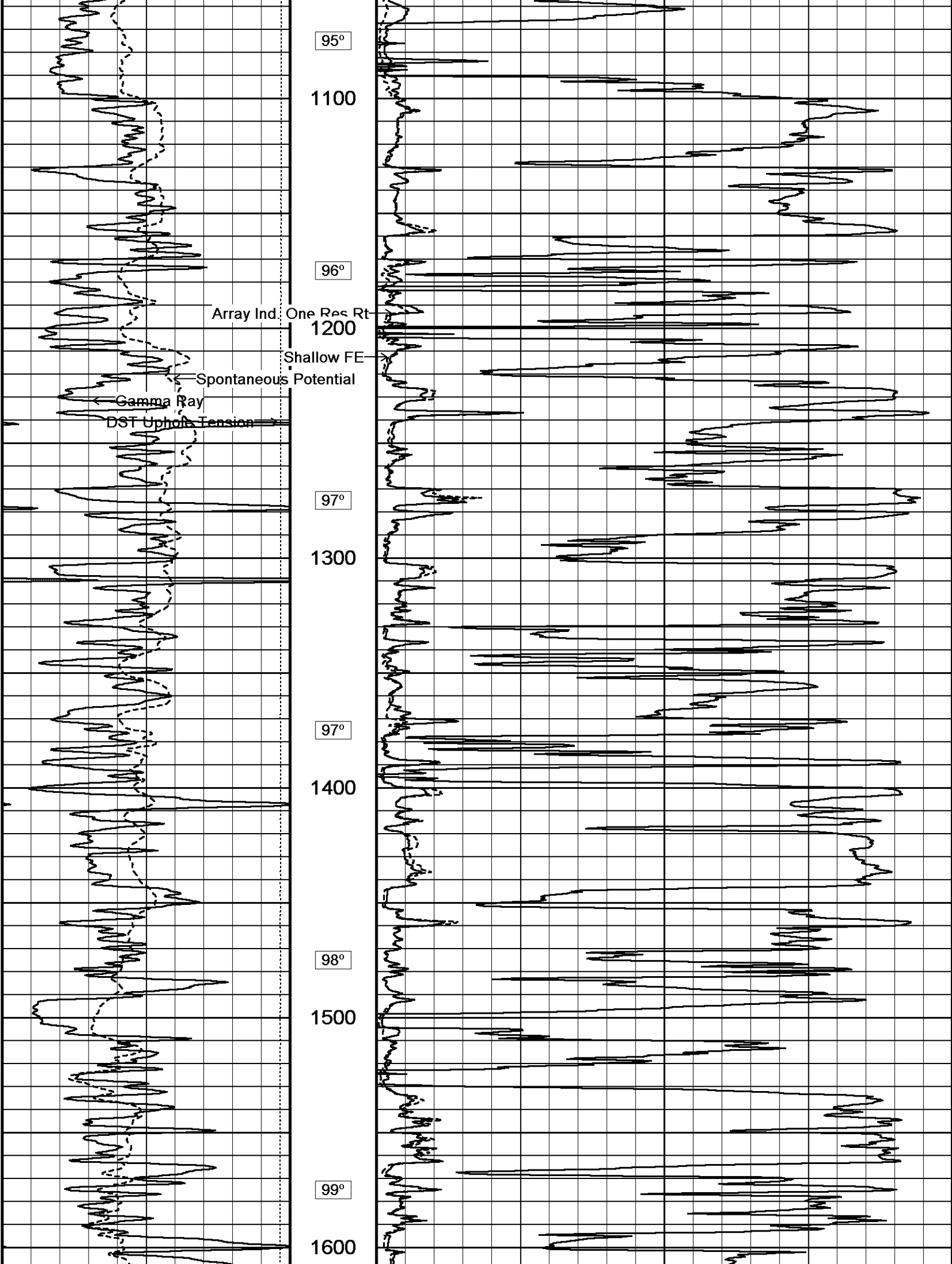
OPERATOR(S): M. SLOBODKIN, G. NANNEY, C. ALEXANDER

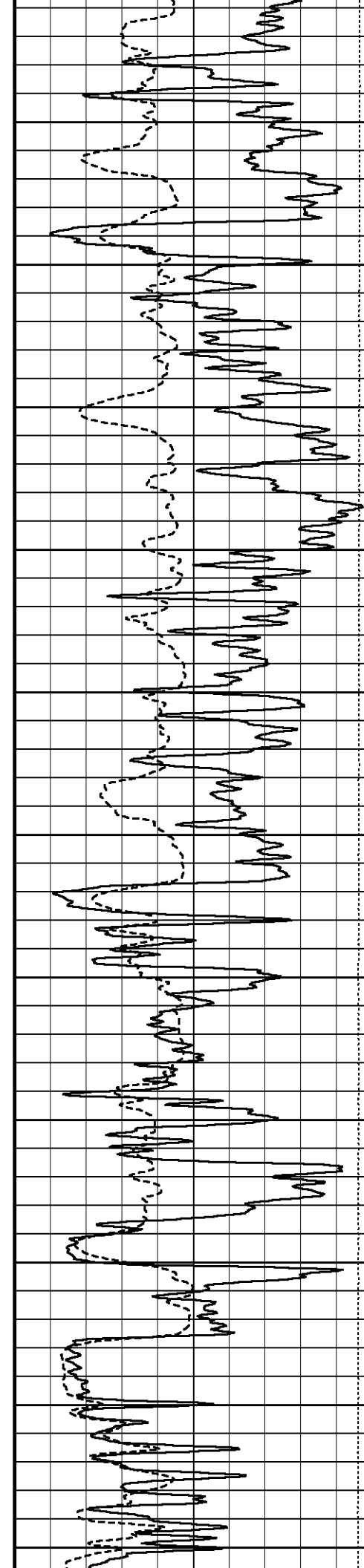
WASHOUTS AND HOLE RUGOSITY WILL AFFECT LOG QUALITY AND REPEATABILITY

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.









101°

1700

102°

1800

103°

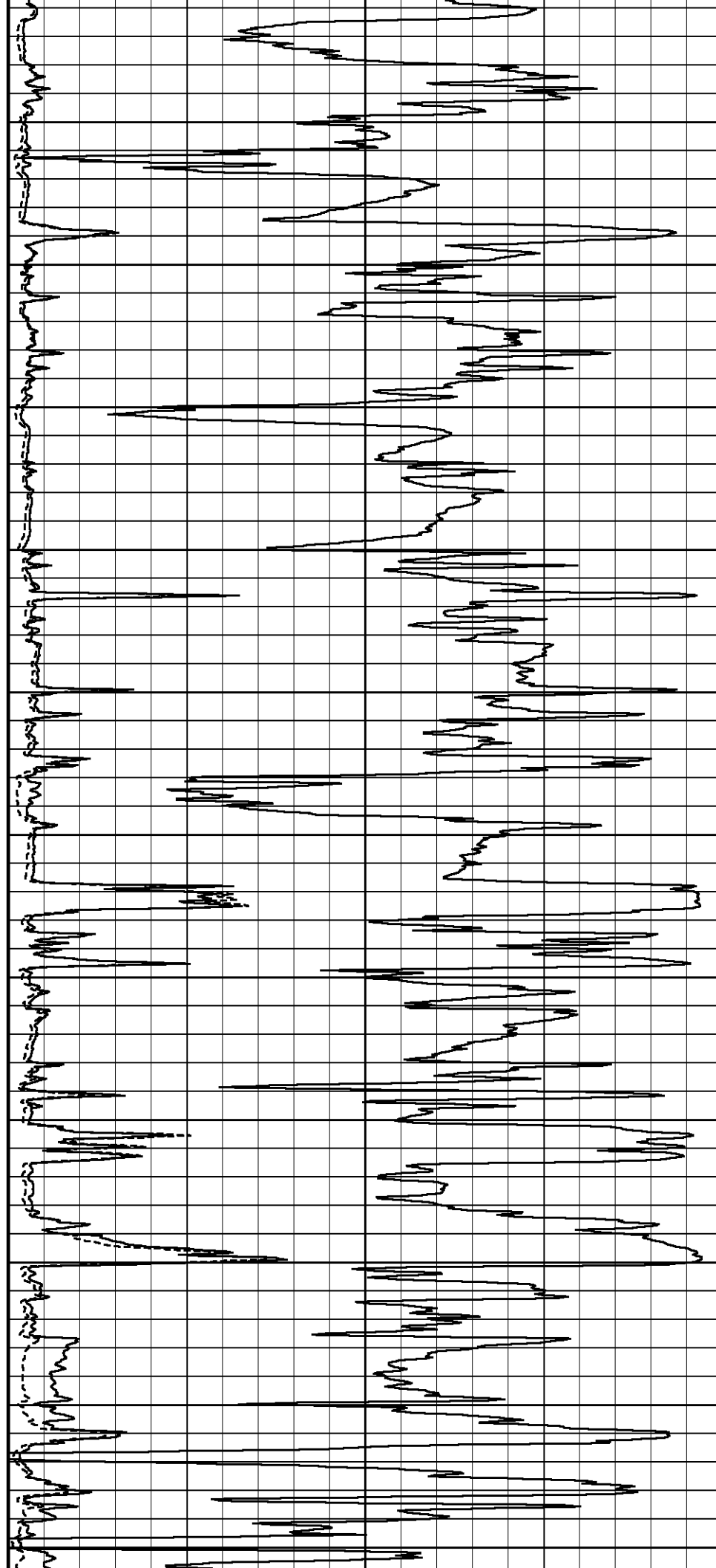
1900

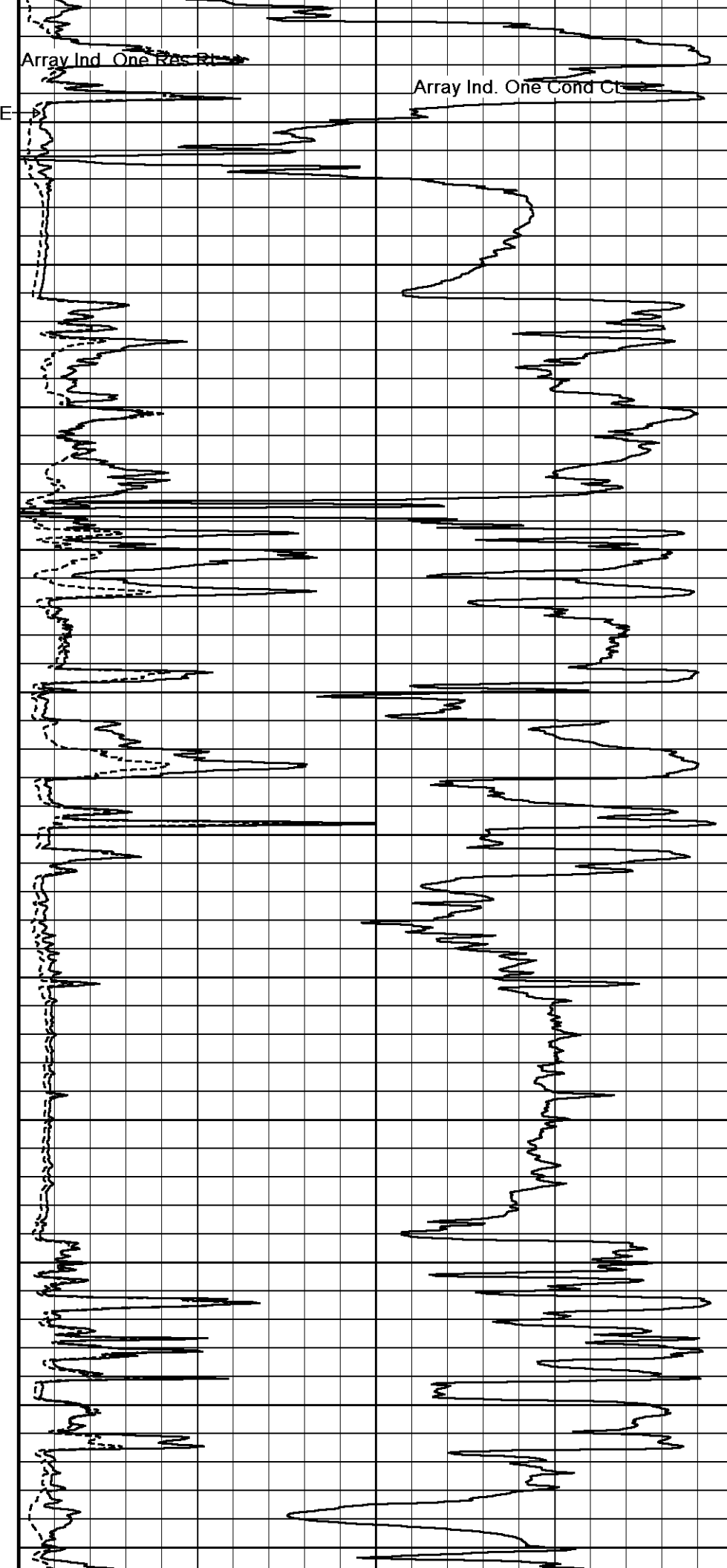
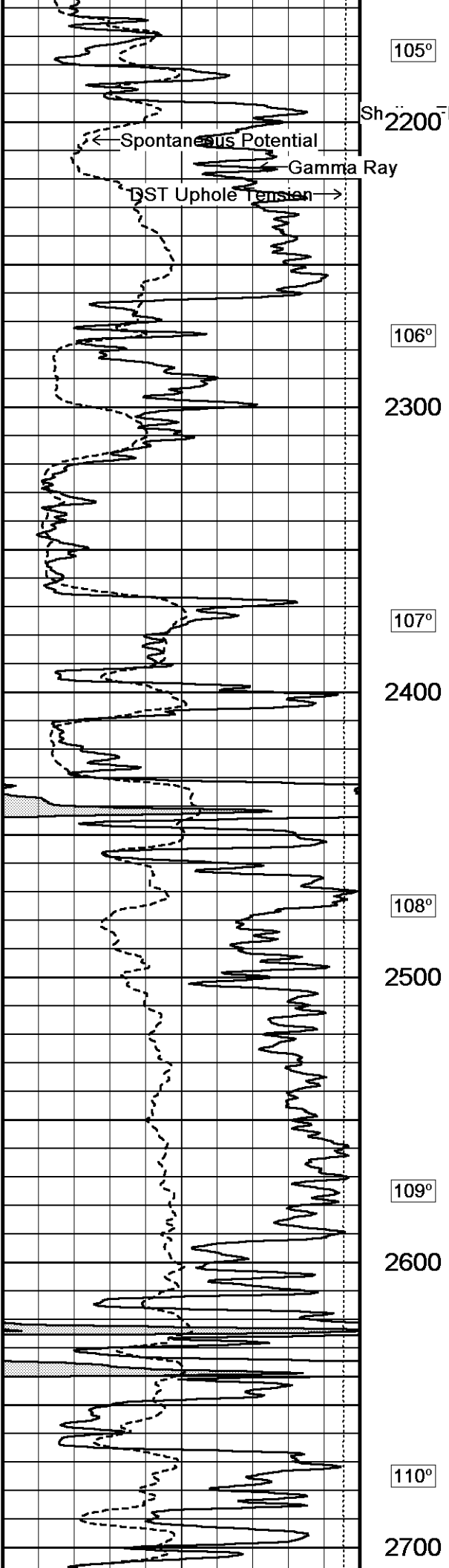
103°

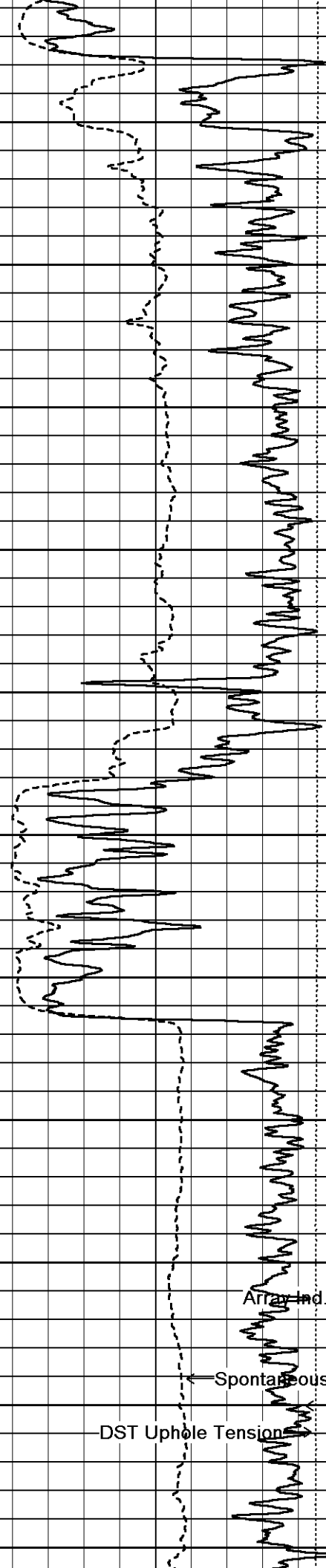
2000

104°

2100







111°

2800

113°

2900

114°

3000

115°

3100

Array Ind. One Res Rt

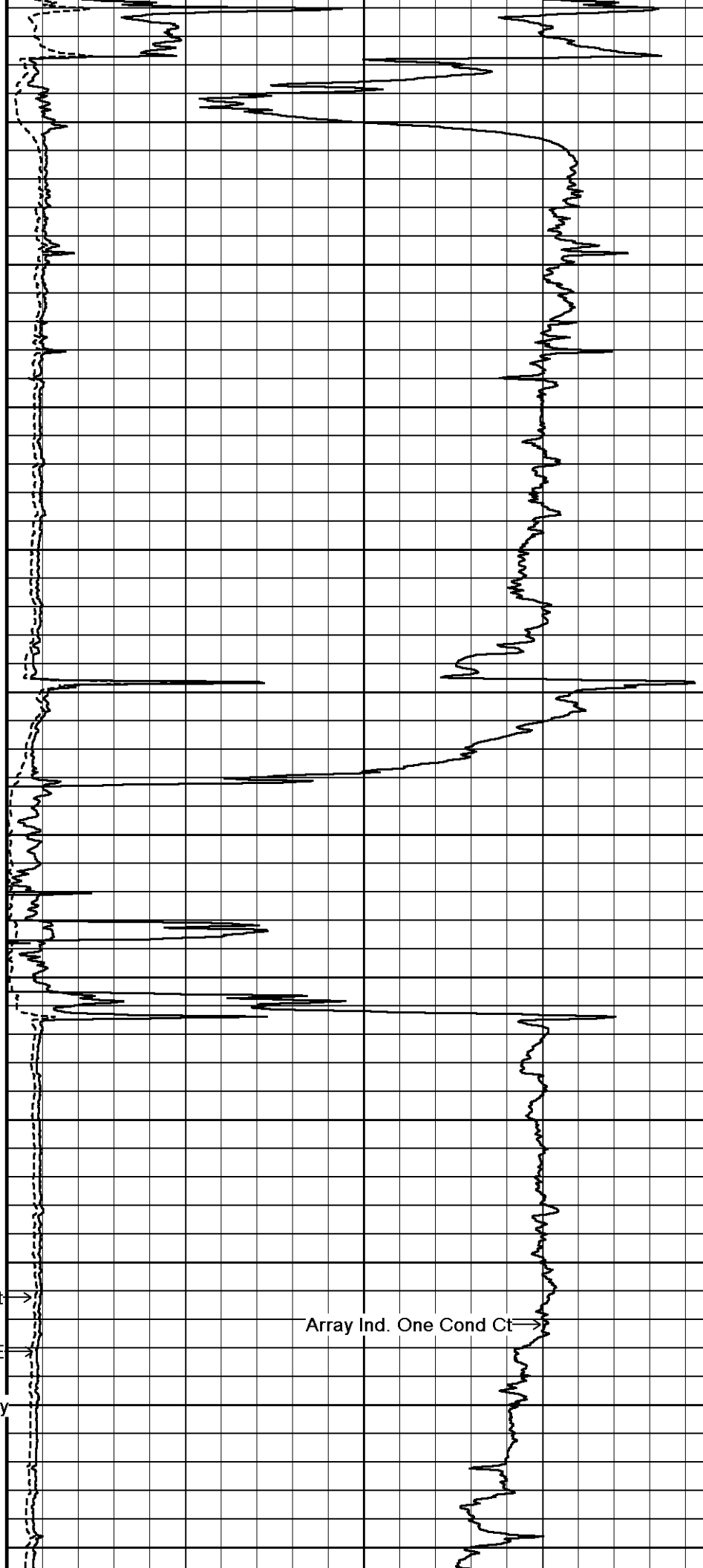
116°

Shallow FE

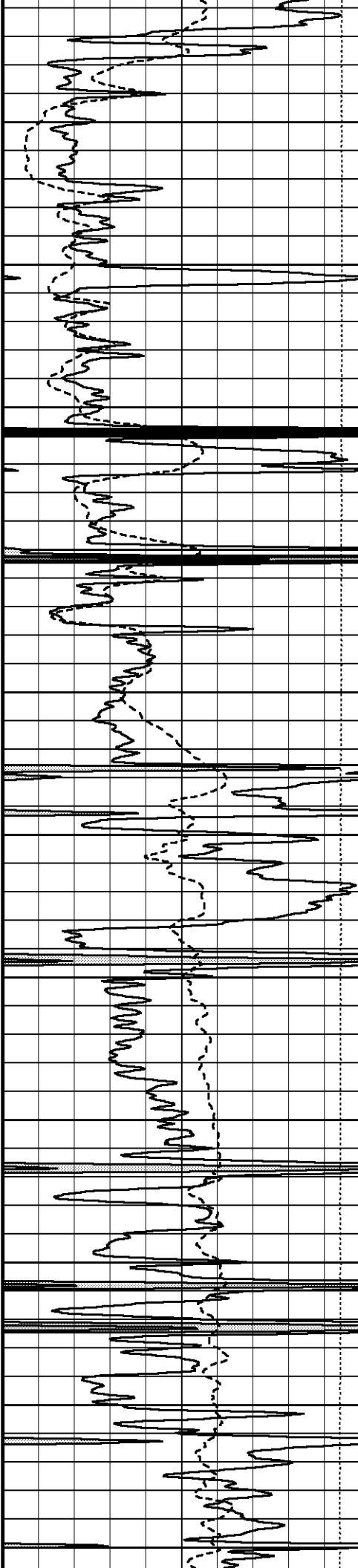
Spontaneous Potential

Gamma Ray

DST Uphole Tension



Array Ind. One Cond Ct



117°

3300

119°

3400

119°

3500

121°

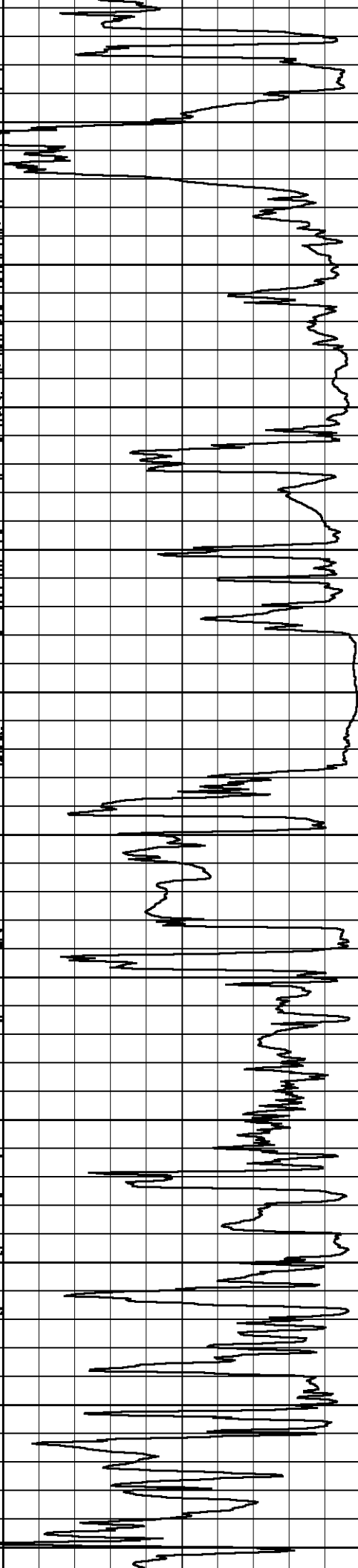
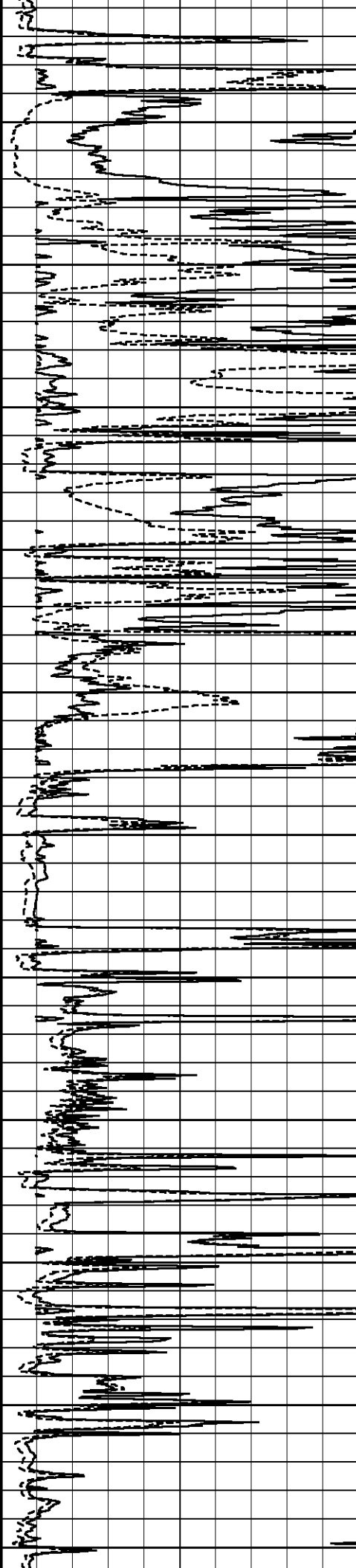
3600

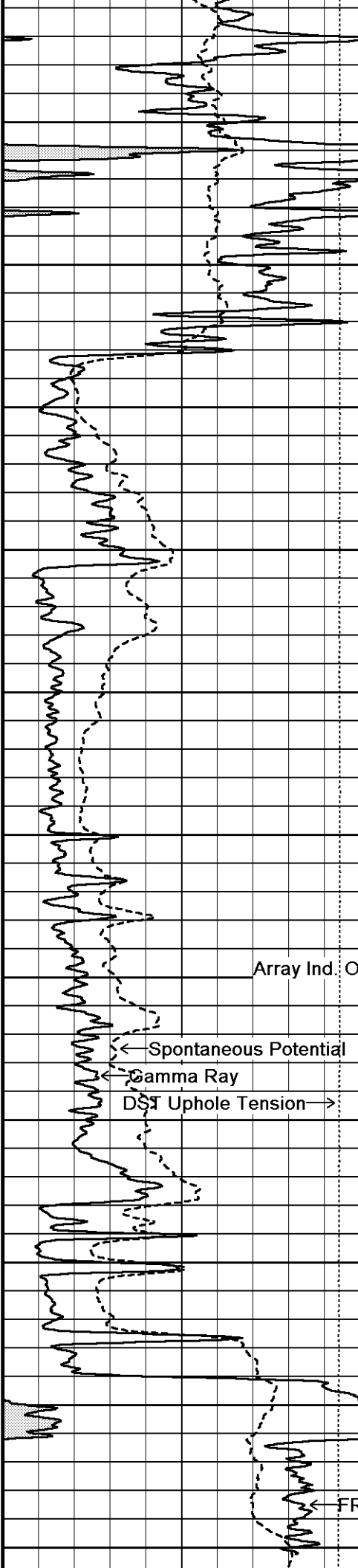
122°

3700

123°

3800





125°

3900

127°

4000

128°

4100

Array Ind. One Res Rt

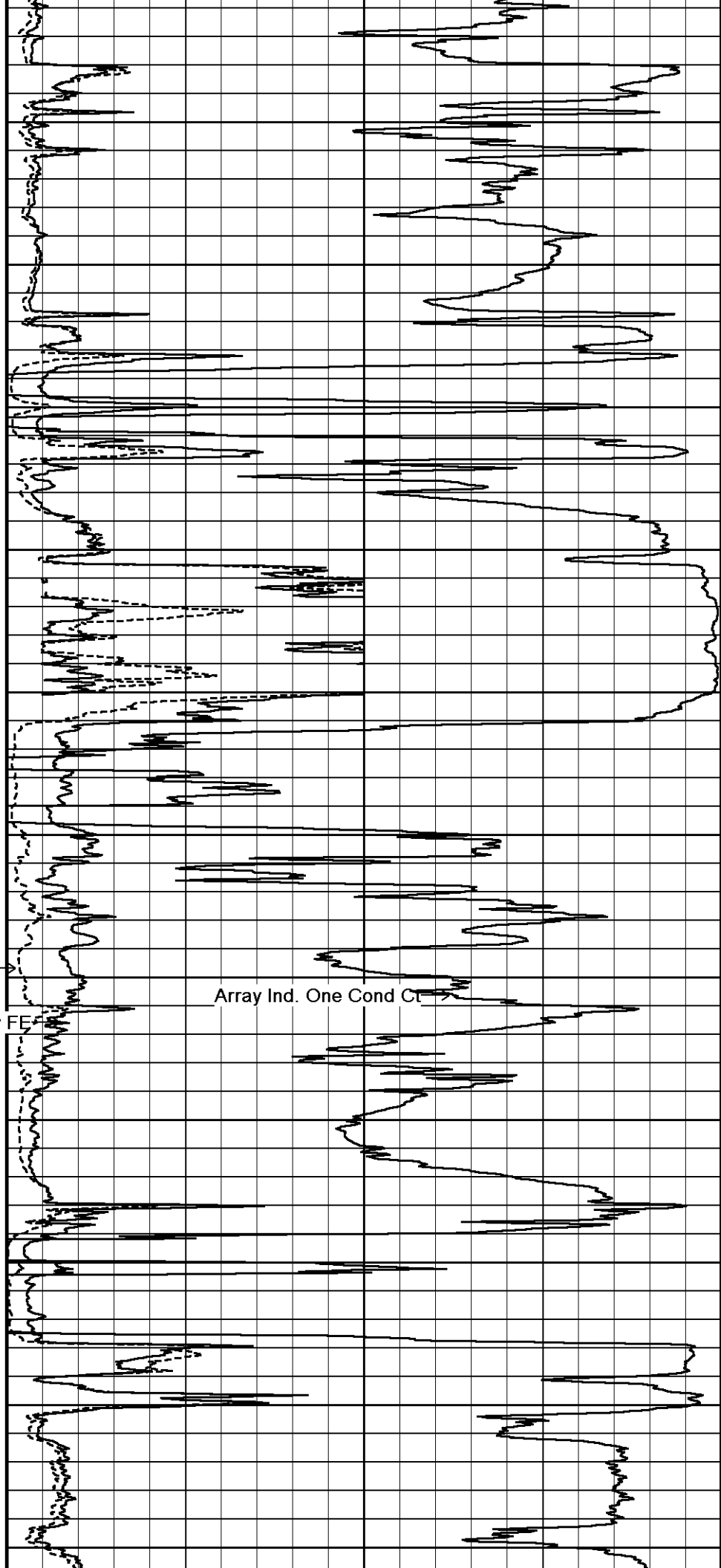
Shallow FE 129°

4200

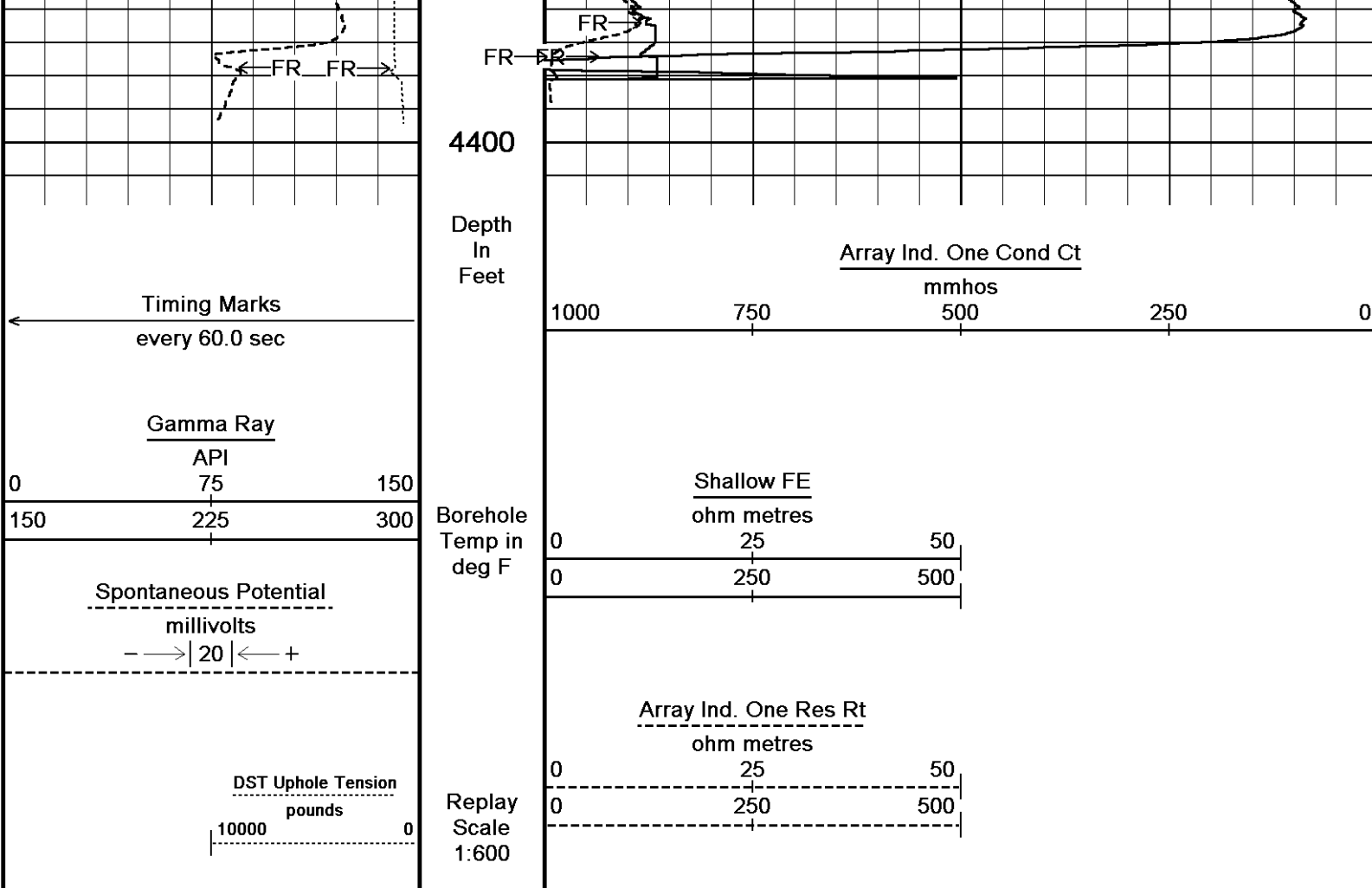
130°

4300

FR



Array Ind. One Cond Ct

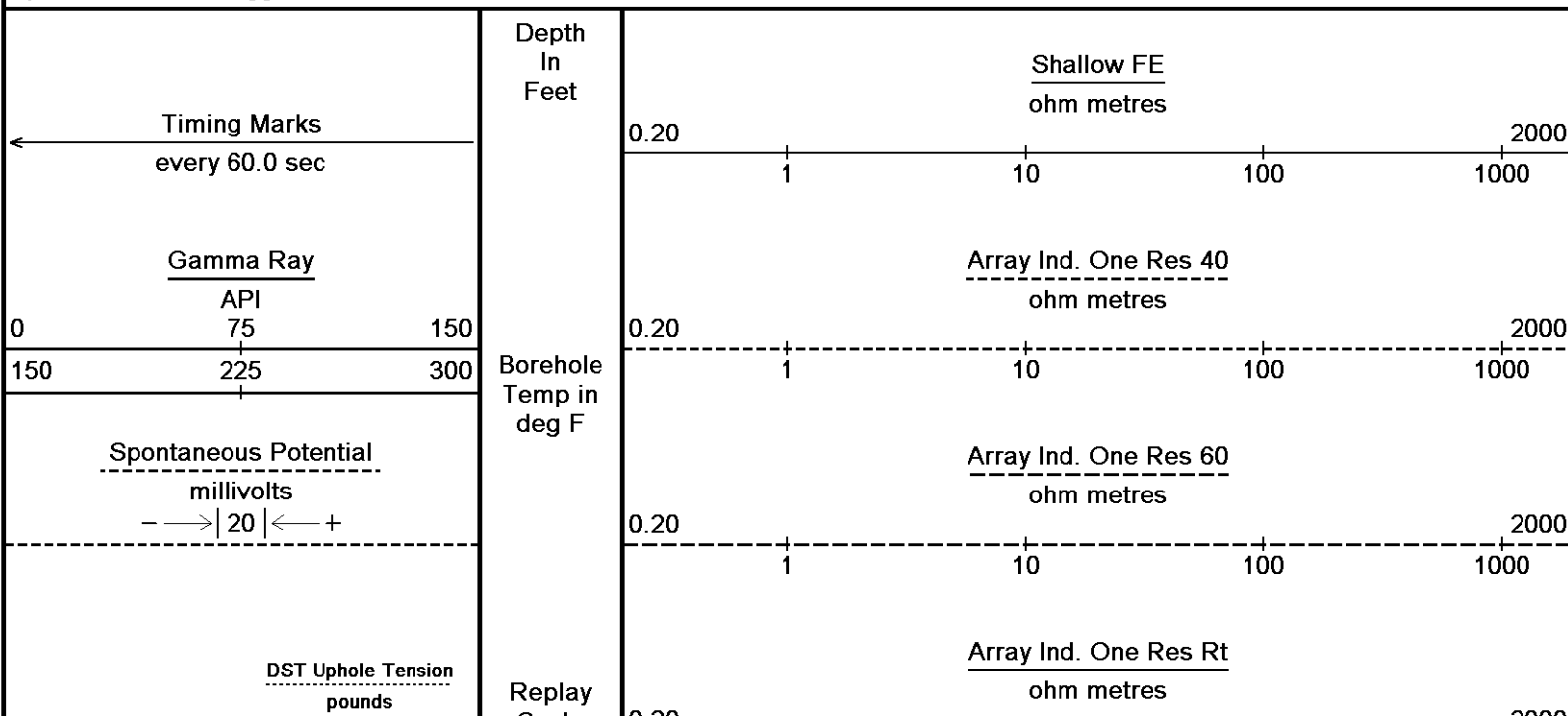


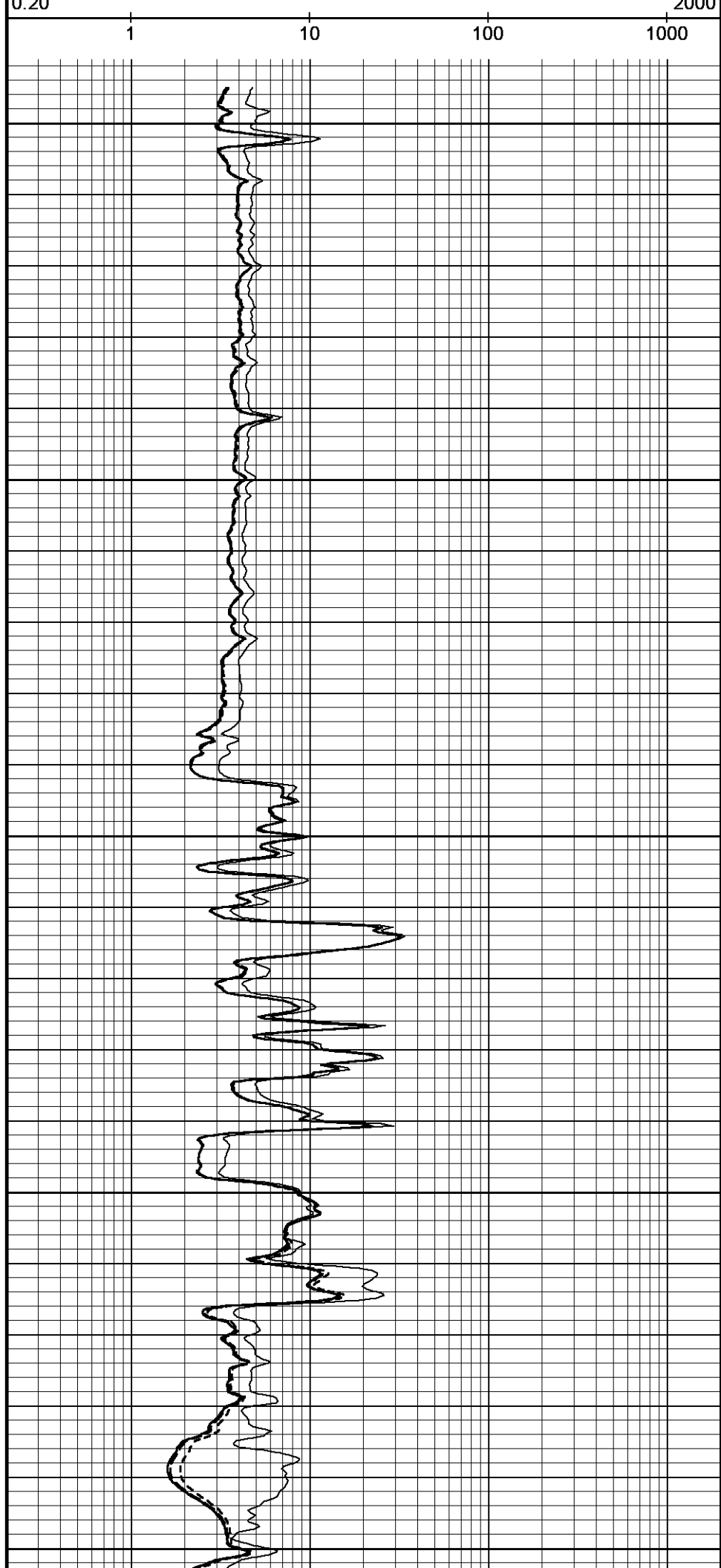
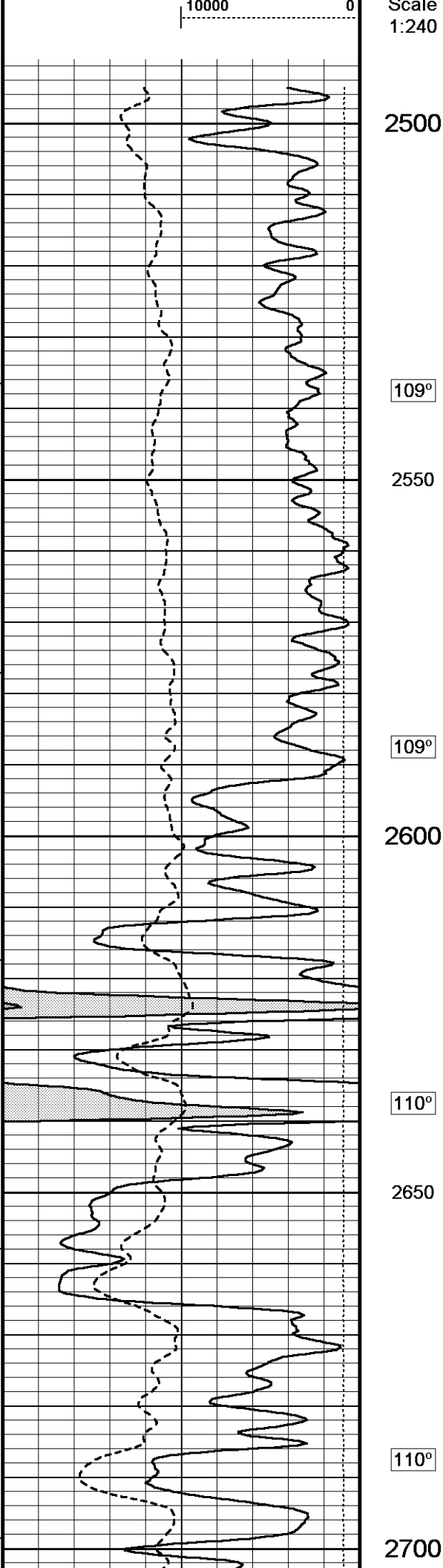
Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Program Files\Weatherford\WLS 13.02\DATA\MCCOY (ERSKINE B 1-32)\MAIN_002.dta
 System Versions: Logged with 13.02.6600 Plotted with 13.02.6600

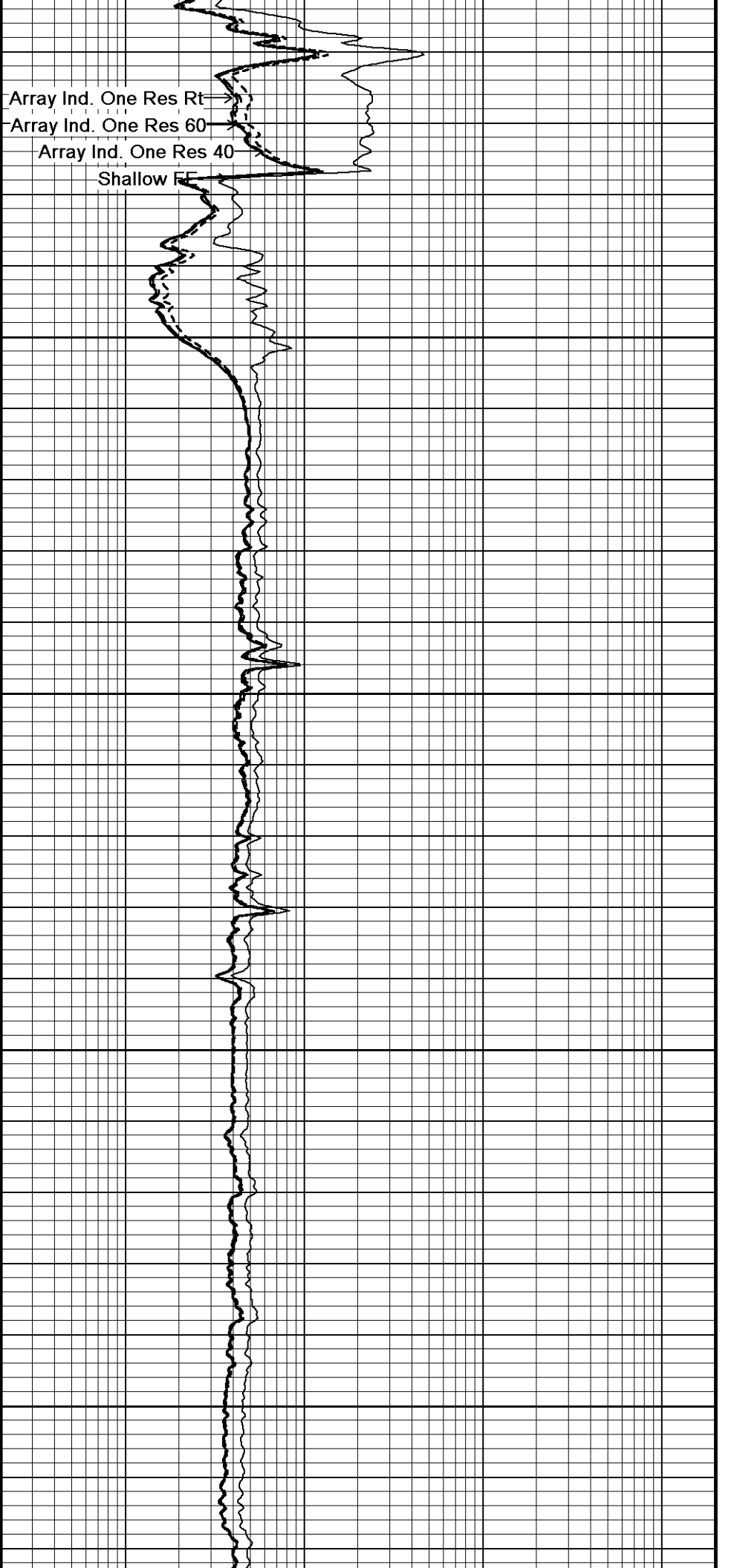
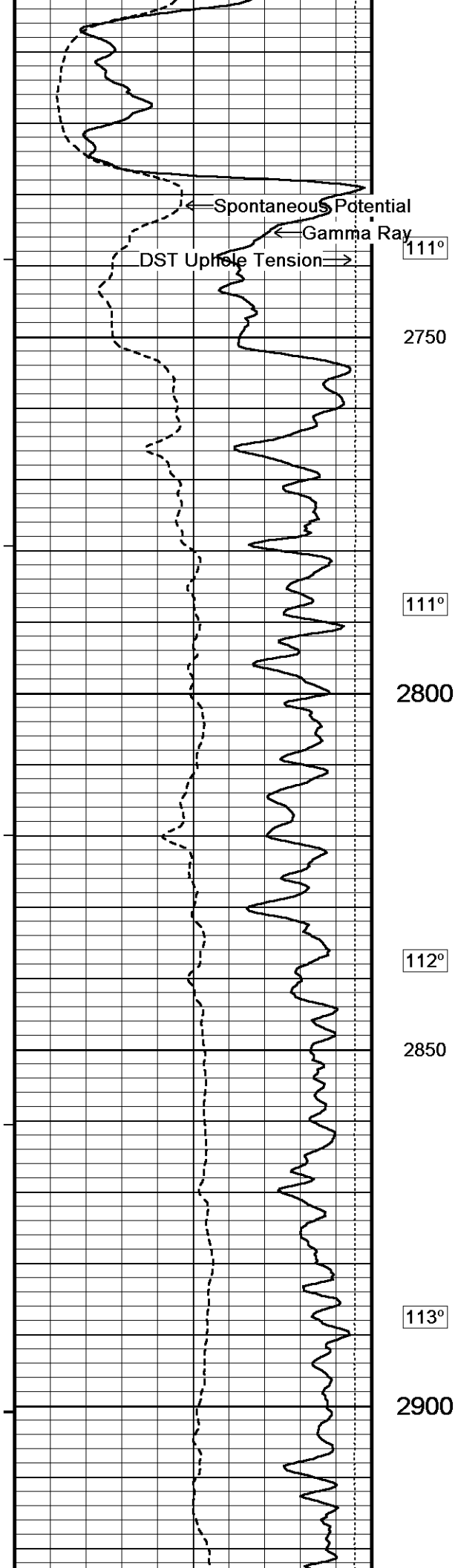
2 INCH MAIN LOG DSC

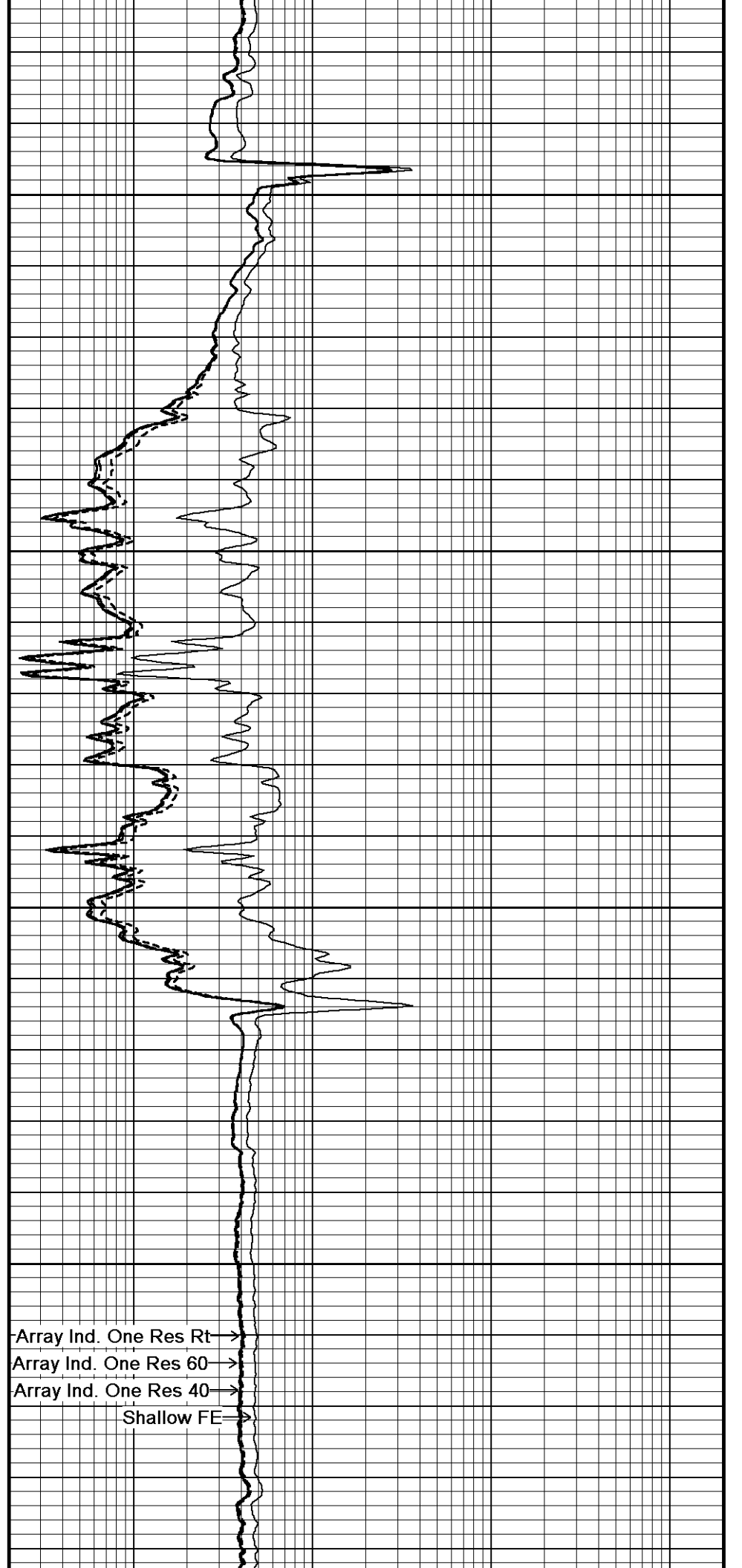
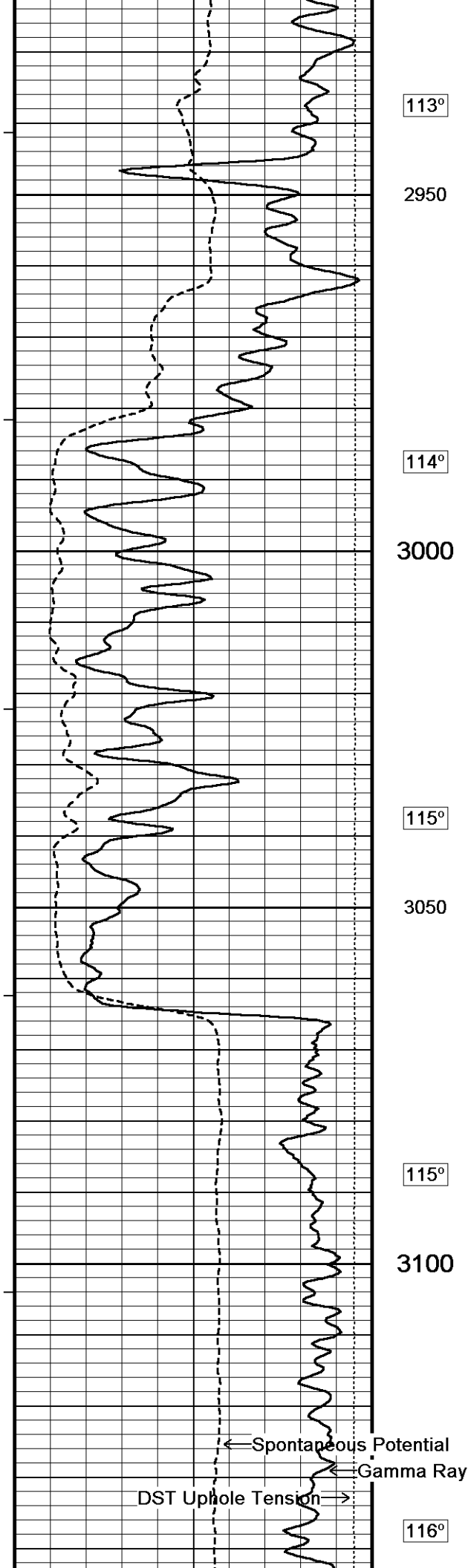
5 INCH MAIN LOG DSC

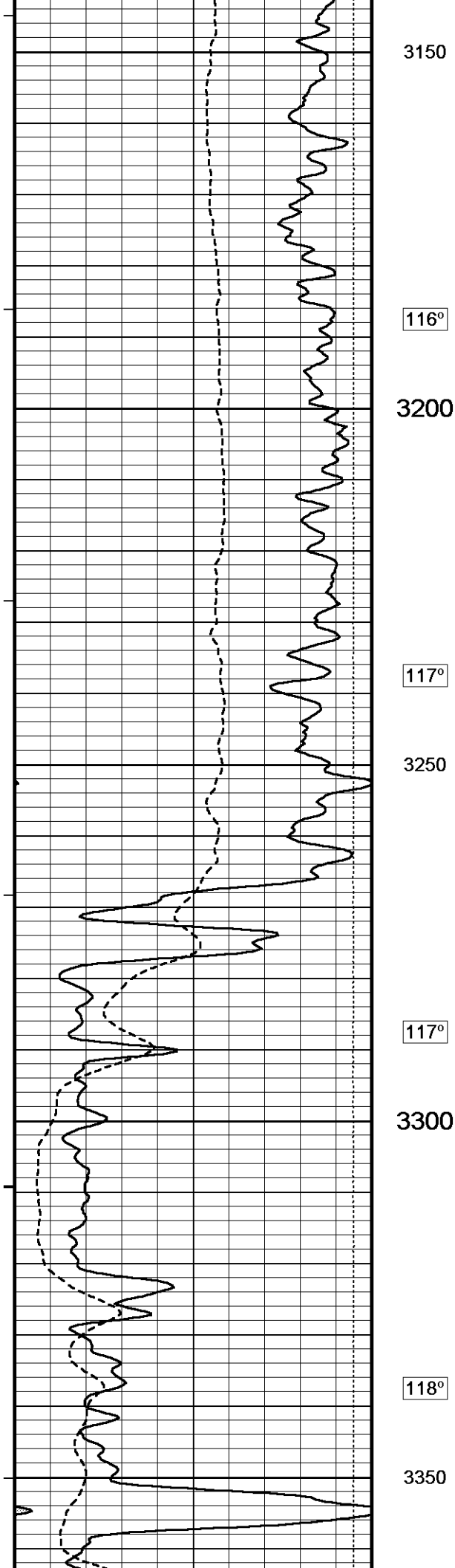
Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Program Files\Weatherford\WLS 13.02\DATA\MCCOY (ERSKINE B 1-32)\MAIN_002.dta
 System Versions: Logged with 13.02.6600 Plotted with 13.02.6600











3150

116°

3200

117°

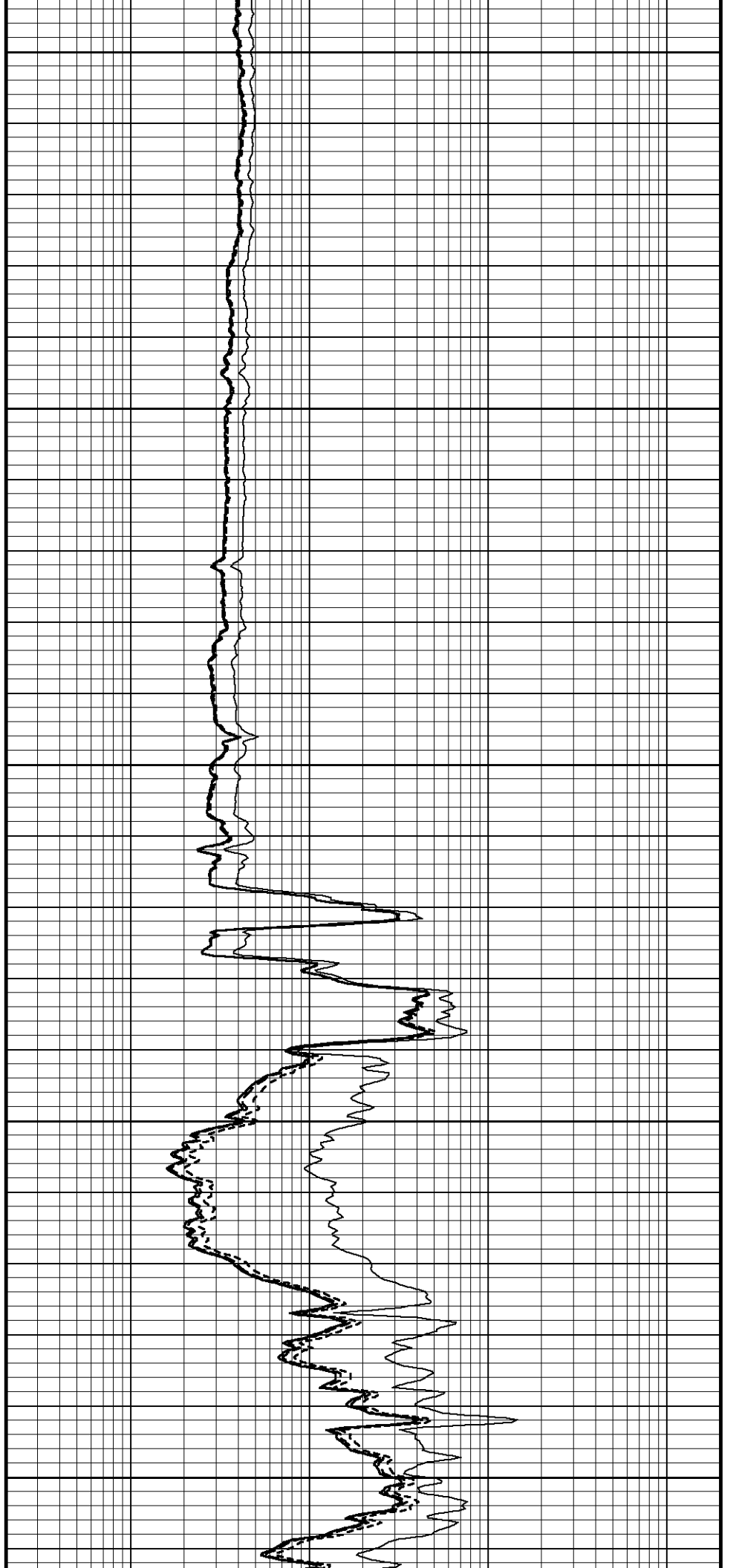
3250

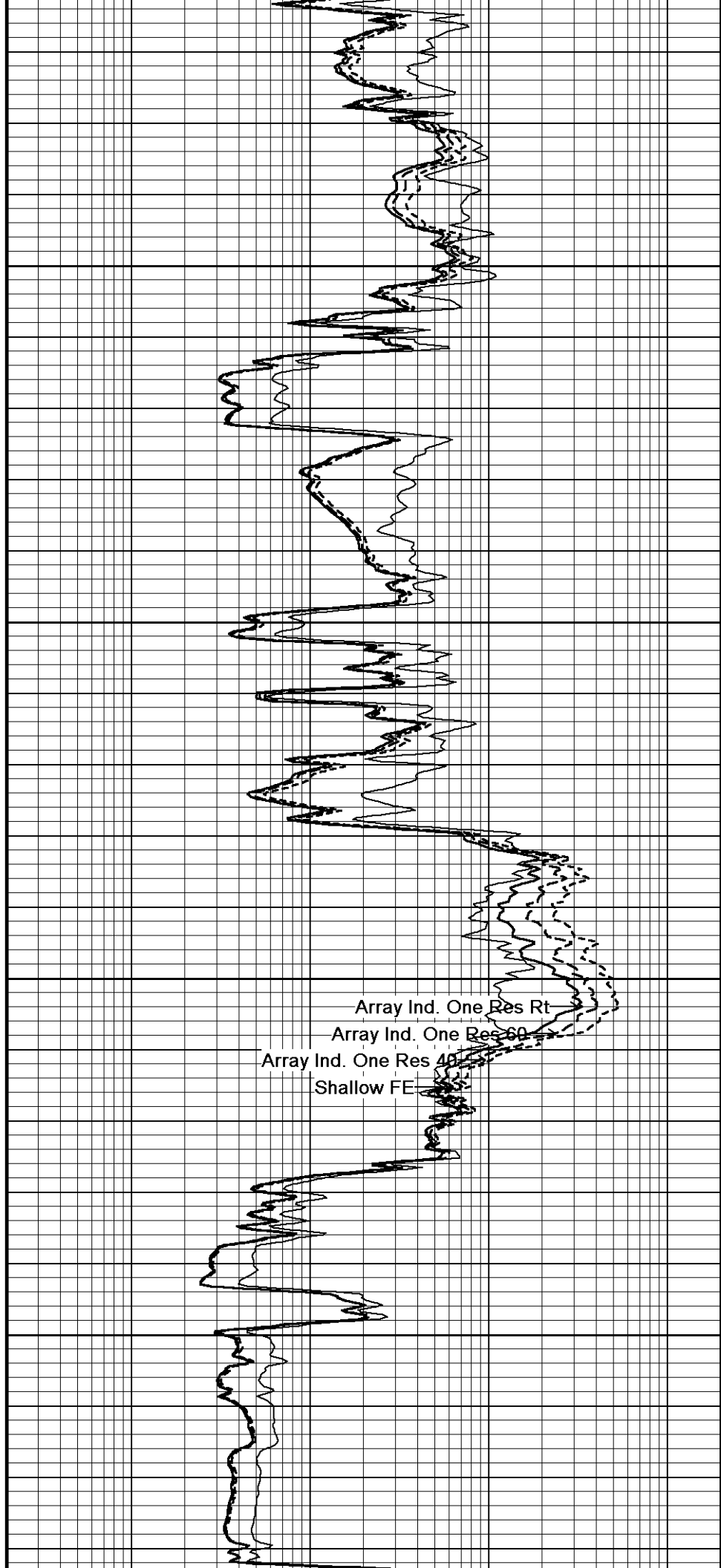
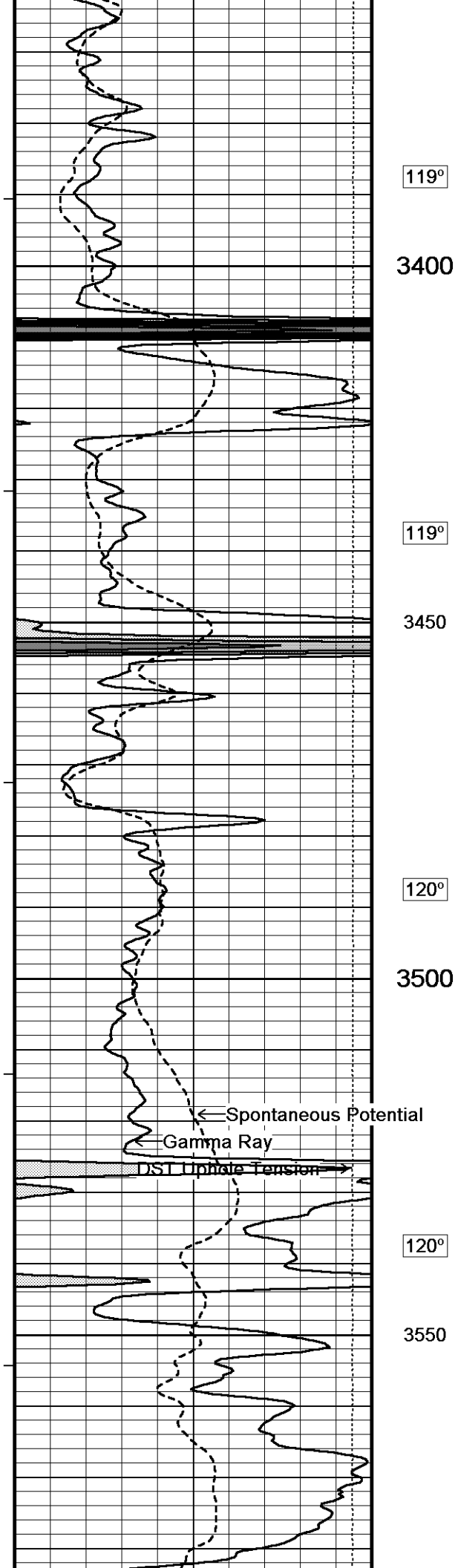
117°

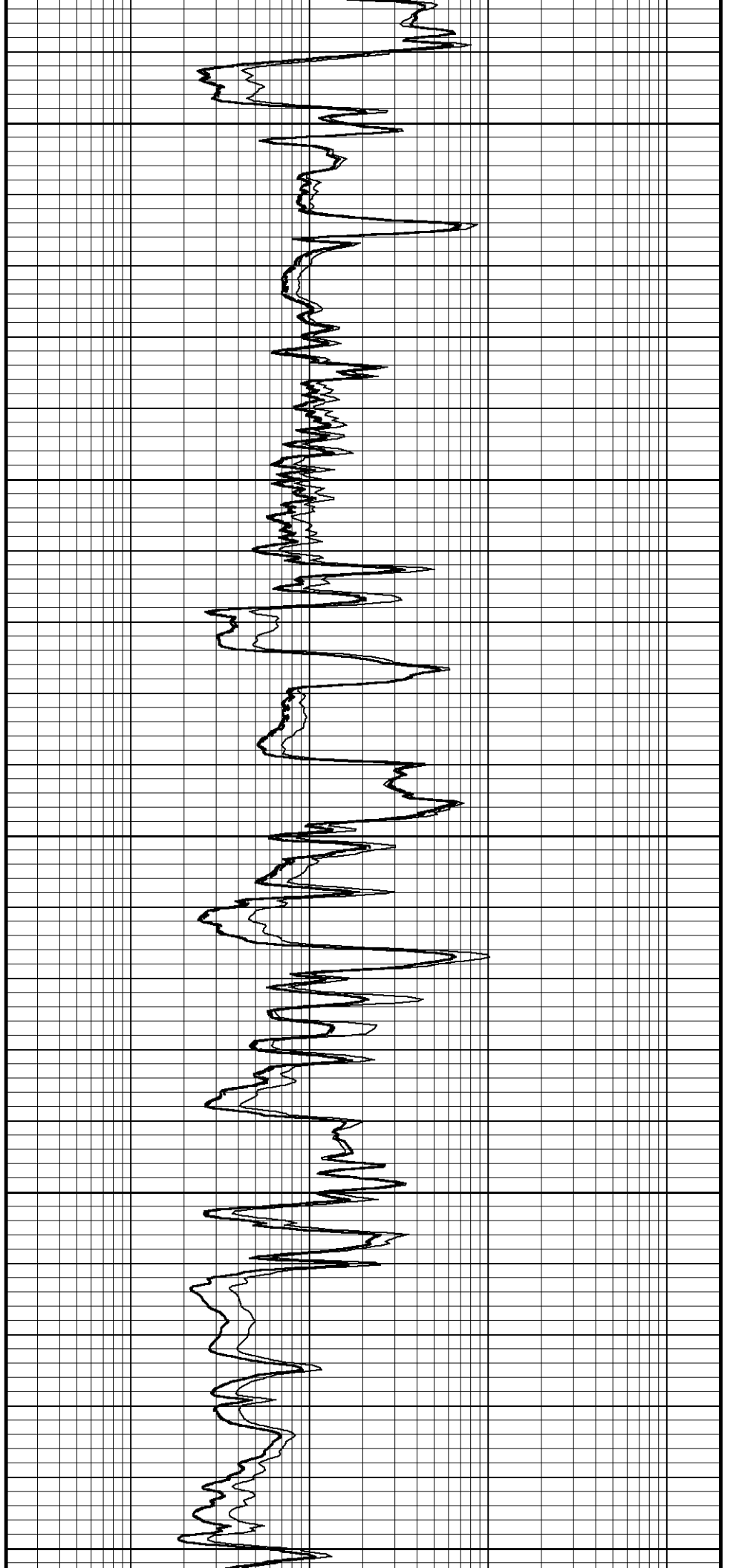
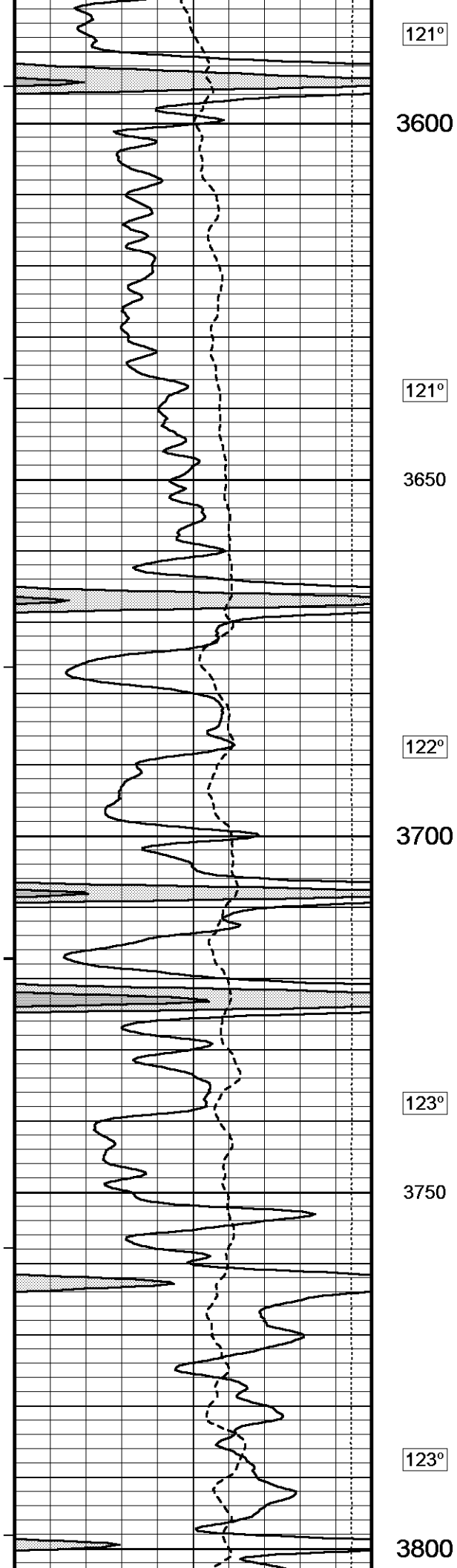
3300

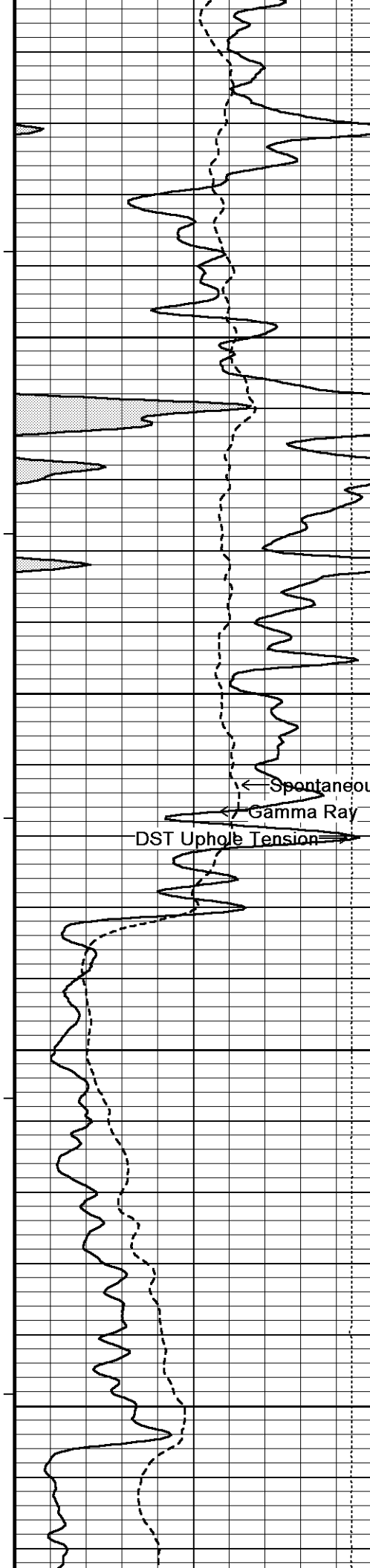
118°

3350









124°

3850

125°

3900

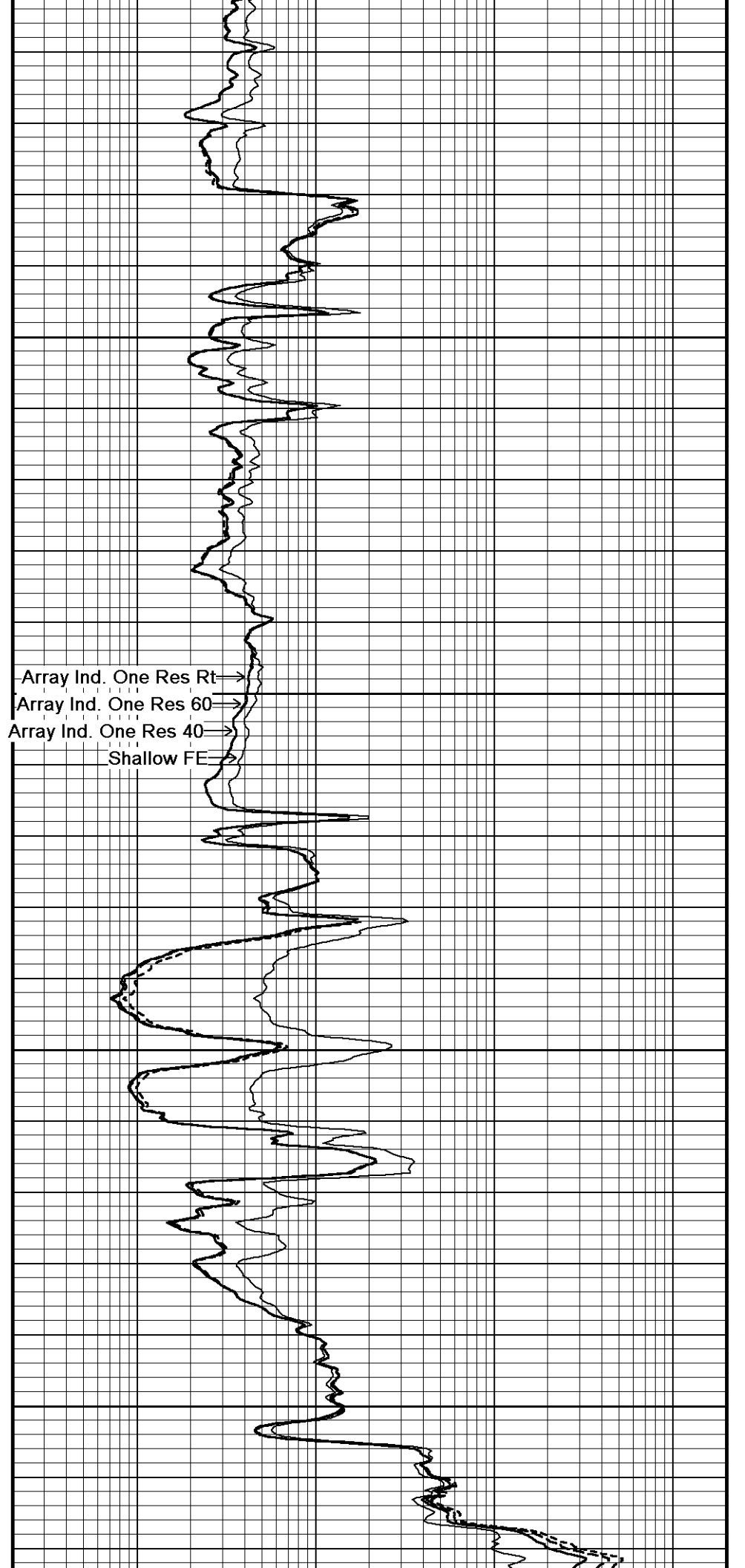
← Spontaneous Potential
← Gamma Ray
DST Uphole Tension →

126°

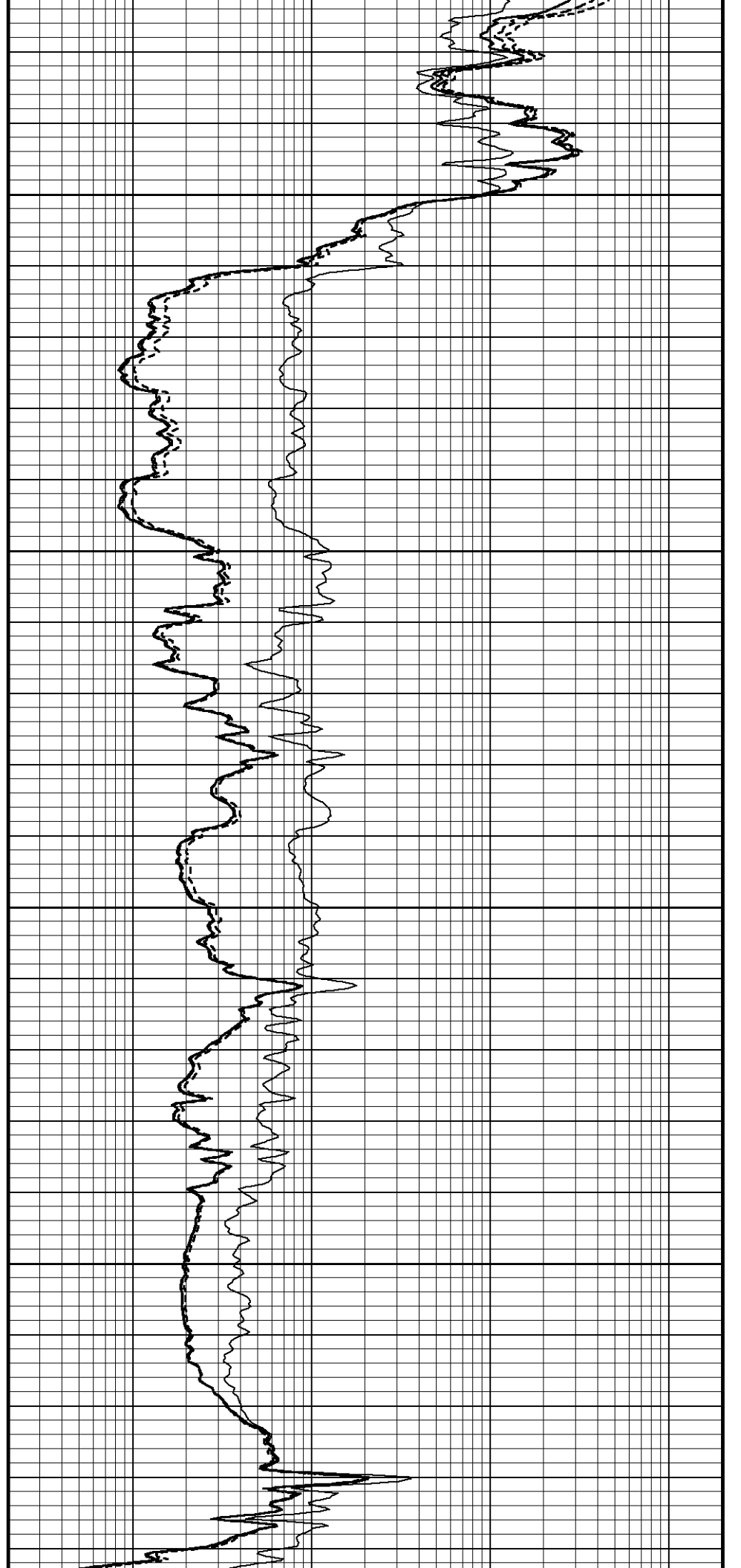
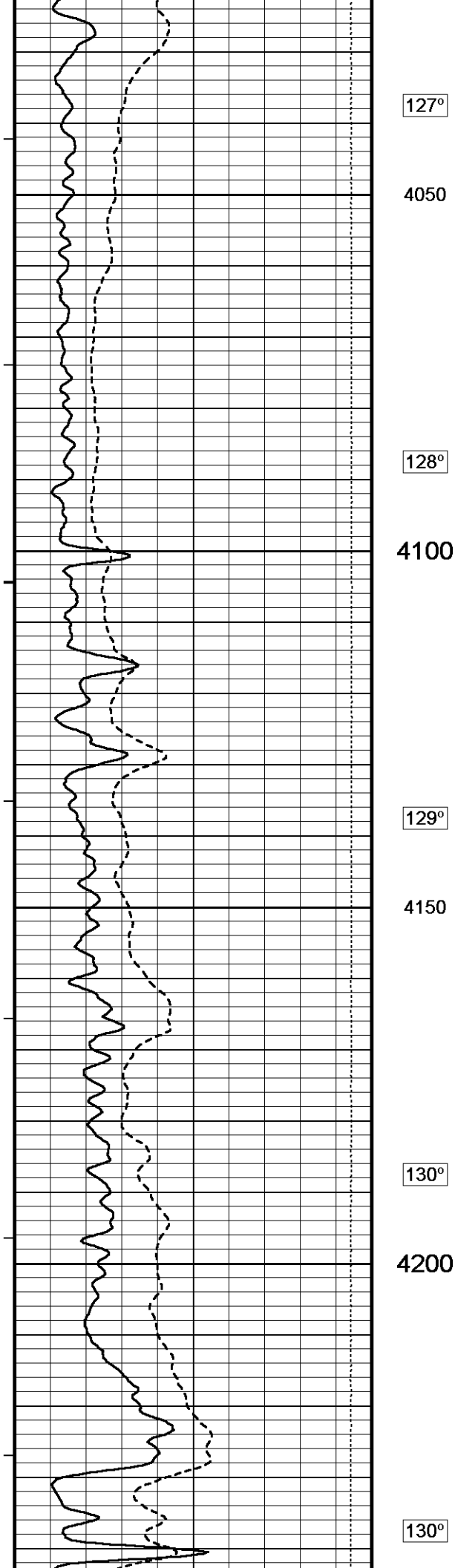
3950

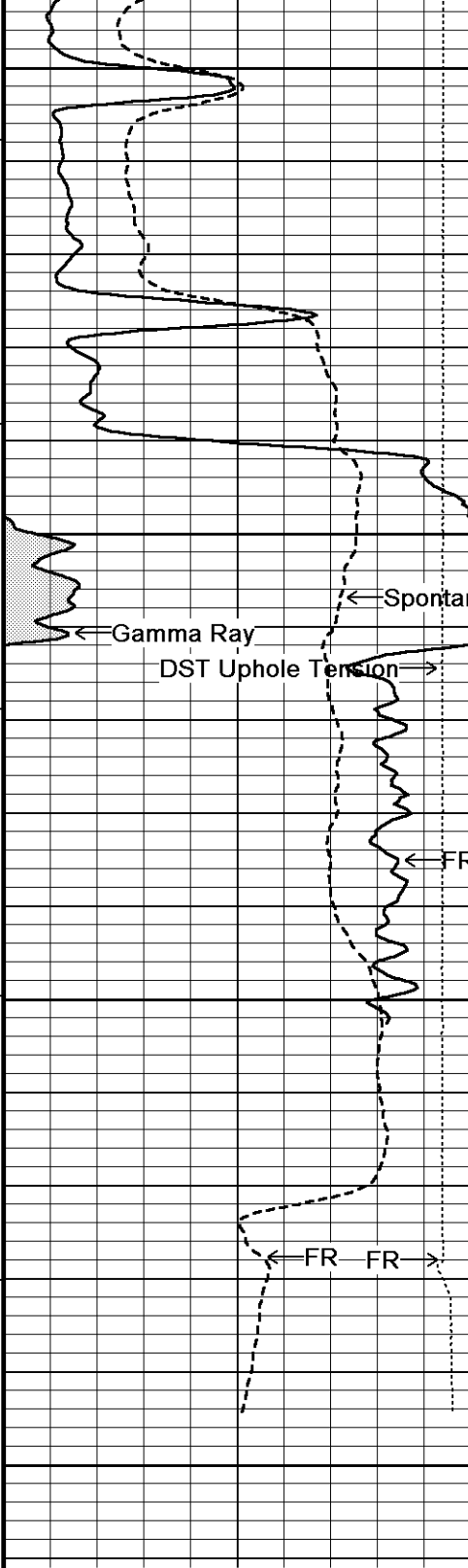
127°

4000



→ Array Ind. One Res Rt
→ Array Ind. One Res 60
→ Array Ind. One Res 40
→ Shallow FE





4250

130°

4300

129°

4350

4400

4408

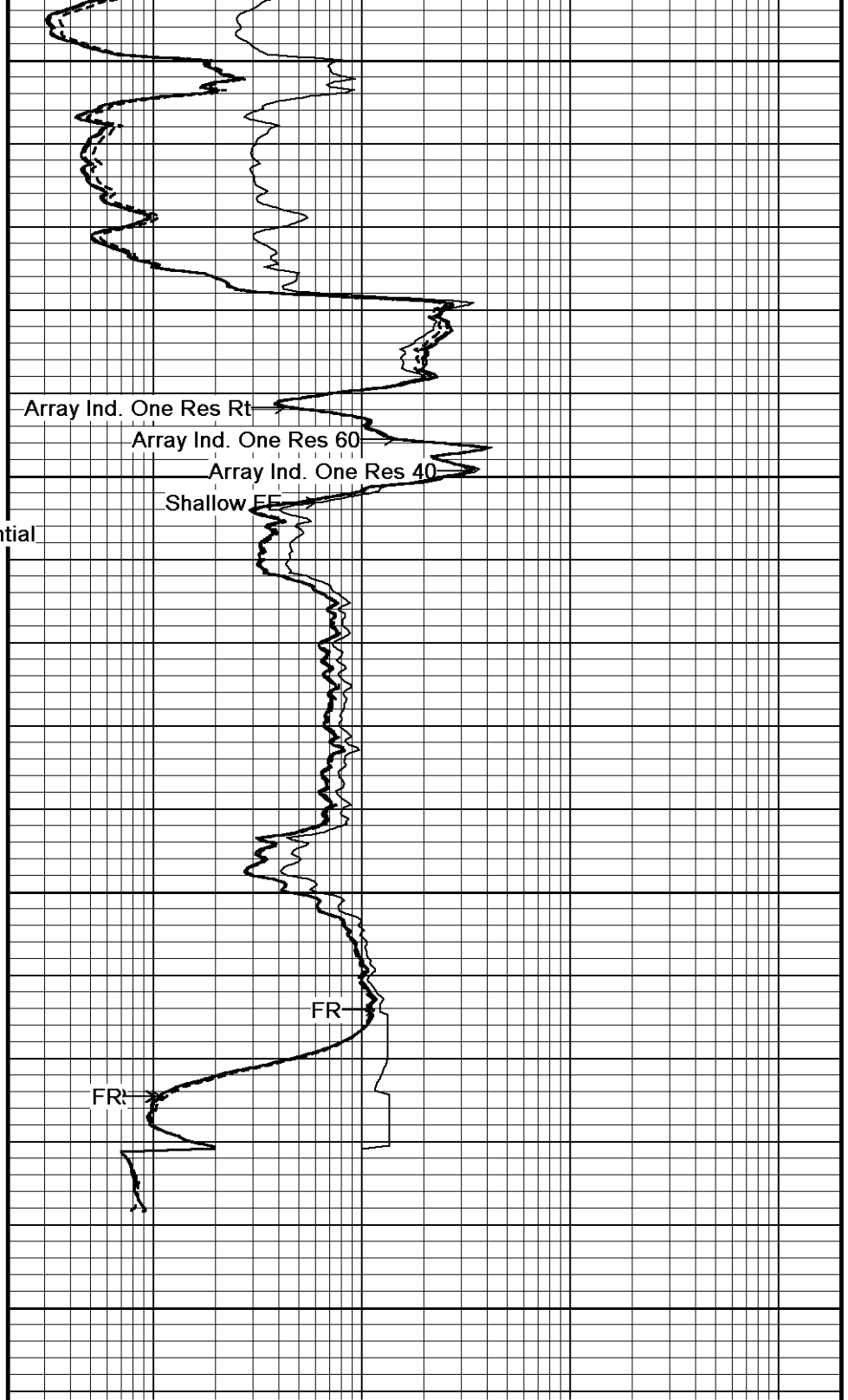
Depth
In
Feet

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts

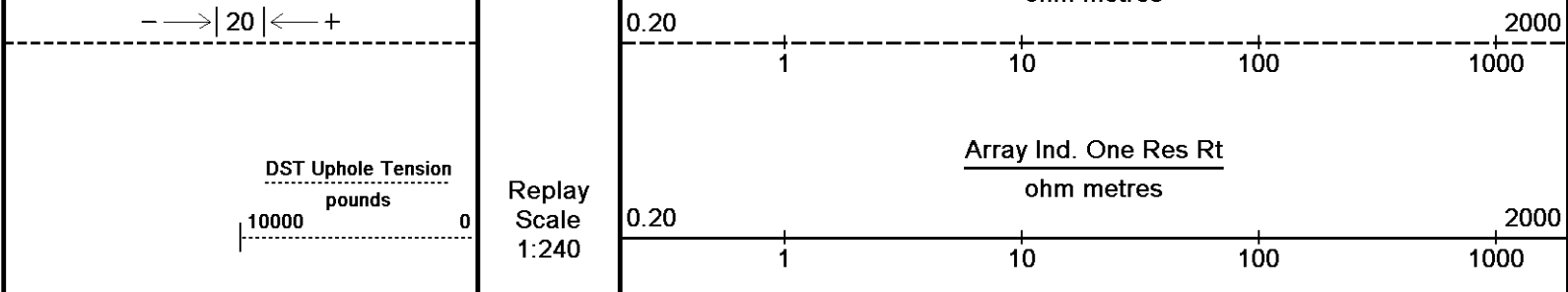
Borehole
Temp in
deg F



Shallow FE
ohm metres
0.20 1 10 100 1000 2000

Array Ind. One Res 40
ohm metres
0.20 1 10 100 1000 2000

Array Ind. One Res 60
ohm metres
0.20 1 10 100 1000 2000

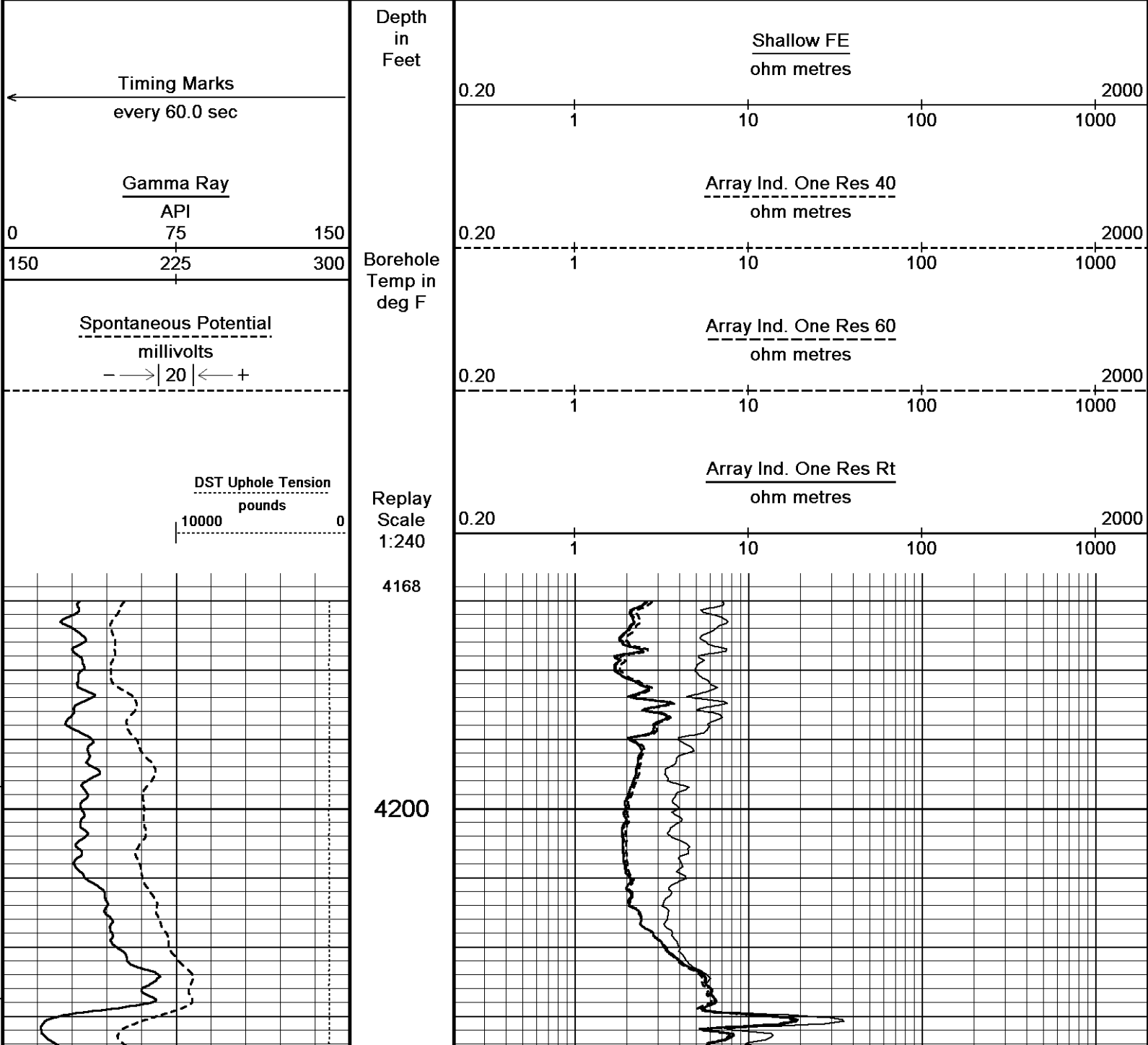


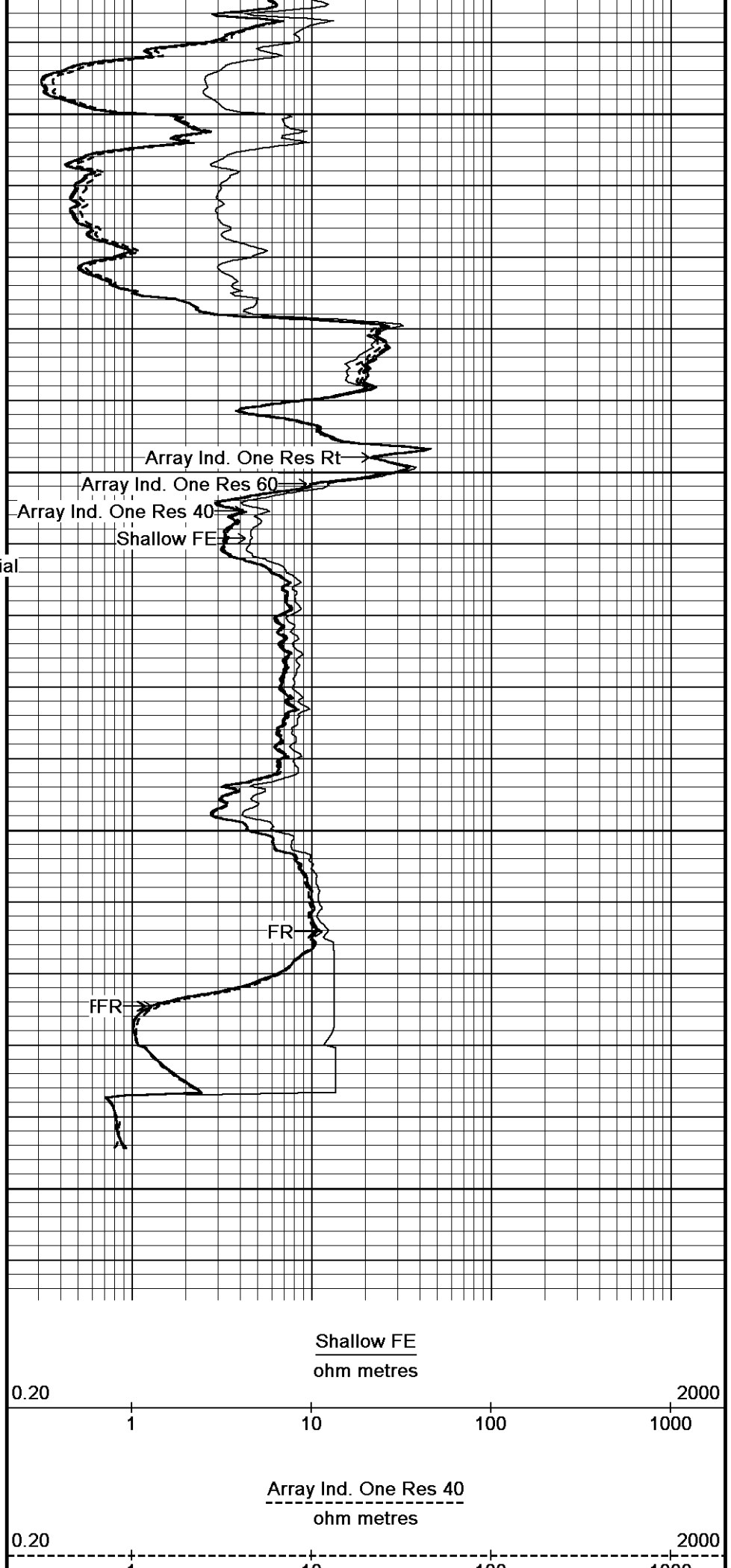
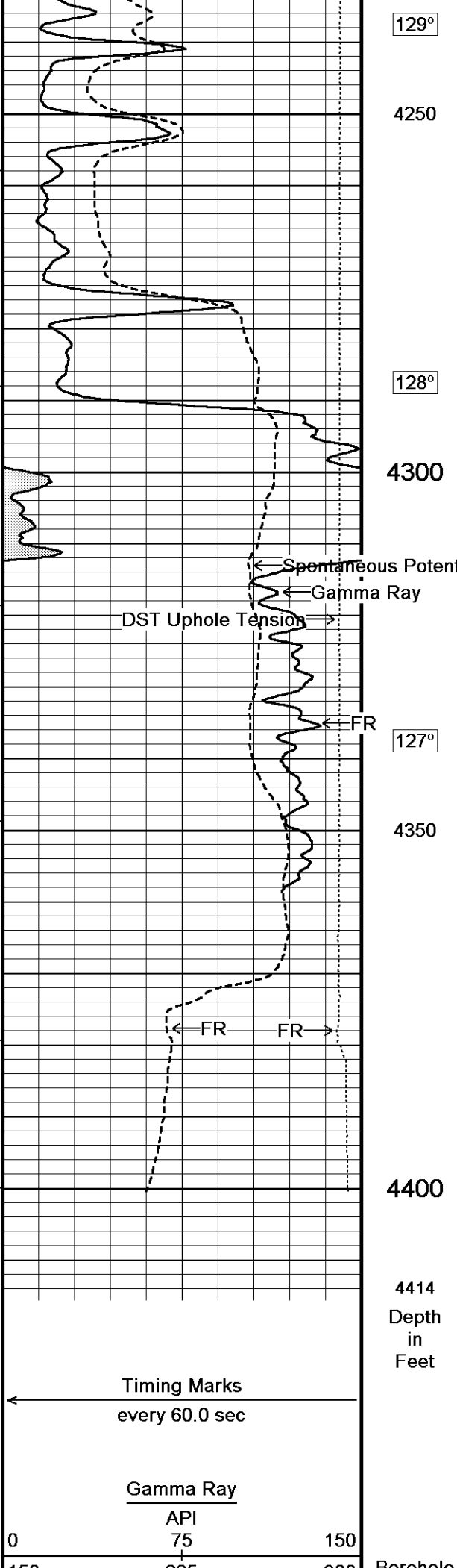
Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 09-AUG-2012 00:56
Filename: C:\Program Files\Weatherford\WLS 13.02\DATA\MCCOY (ERSKINE B 1-32)\MAIN_002.dta	Recorded on 08-AUG-2012 22:51
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600	

↑	5 INCH MAIN LOG DSC	↑
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↓	REPEAT SECTION	↓
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Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 09-AUG-2012 00:56
Filename: C:\Program Files\Weatherford\WLS 13.02\DATA\MCCOY (ERSKINE B 1-32)\MAIN_001.dta	Recorded on 08-AUG-2012 22:38
System Versions: Logged with 13.02.6600 Plotted with 13.02.6600	





High Resolution Temperature Calibration MCG-B 31			Field Calibration on 08-AUG-2012,19:38	
	Measured	Calibrated(Deg F)		
Lower	50.00	50.00		
Upper	100.00	100.00		
High Resolution Temperature Constants MCG-B 31			Last Edited on	
Pre-filter Length	11			
Caliper Calibration MML-A 7			Base Calibration on 18-APR-2012 08:58 Field Calibration on 08-AUG-2012,19:38	
Base Calibration				
Reading No	Measured	Calibrator Size (in)		
1	15211	5.96		
2	18535	7.98		
3	21950	9.94		
4	25696	11.90		
5	0	0.00		
6	N/A	N/A		
Field Calibration				
	Measured Caliper (in)	Actual Caliper (in)		
	8.24	7.98		
Micro Normal and Micro Inverse Calibration MML-A 7			Base Calibration on 18-APR-2012 08:48 Field Check on 08-AUG-2012,19:38	
Base Calibration				
		Measured	Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.1	59.8	5.0	25.0
Micro Inverse	15.7	77.9	5.0	25.0
Channel	Base Check (ohm-m)		Field Check (ohm-m)	
Micro Normal	63.4		63.4	
Micro Inverse	48.5		48.5	
Micro Normal and Micro Inverse Constants MML-A 7			Last Edited on 08-AUG-2012,19:38	
Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159			
Micro Normal K Factor	1.0000			
Micro Inverse K Factor	1.0000			
Standoff Offset	N/A inches			
Neutron Calibration MDN-A.B 31			Base Calibration on 05-MAR-2012 13:28 Field Check on 08-AUG-2012,19:39	
Base Calibration				
		Measured	Calibrated (cps)	
	Near	Far	Near	Far
	3308	102	3714	110
Ratio	32.392		33.764	
Field Calibrator at Base			Calibrated (cps)	
			2229	3259
Ratio	0.684			
Field Check			Calibrated (cps)	
			1936	2801
Ratio	0.691			
Neutron Constants MDN-A.B 31			Last Edited on 08-AUG-2012,19:39	
Neutron Source Id	n1054			
Neutron Jig Number	grcc056			
Epithermal Neutron	No			
Caliper Source for Processing	Density Caliper			
Stand-off	0.00	inches		
Mud Density	1.00	gm/cc		
Limestone Sigma	7.10	cu		
Sandstone Sigma	4.26	cu		
Dolomite Sigma	4.70	cu		
Formation Pressure Source	Constant Value			
Formation Pressure	0.00	kpsi		

Formation Pressure	0.00	psi
Temperature Source	MCG External Temperature	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	
FE Calibration MFE-A.A 54		Base Calibration on 18-APR-2012 10:04 Field Check on 08-AUG-2012,19:40
Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	968.0	126.8
Base Check		282.8
Field Check		282.4
FE Constants MFE-A.A 54		Last Edited on 08-AUG-2012,19:40
Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	
Caliper Value for FE correction	N/A	inches
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	0.5	inches
High Resolution Temperature Calibration MAI-A.A 66		Field Calibration on 08-AUG-2012,19:40
	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00
High Resolution Temperature Constants MAI-A.A 66		Last Edited on
Pre-filter Length	11	
Induction Calibration MAI-A.A 66		Base Calibration on 29-SEP-2009,08:06 Field Check on 08-AUG-2012,19:40
Base Calibration		
Test Loop Calibration		
Channel	Low High	Low High
1	16.3 454.6	9.3 966.2
2	5.6 370.2	7.6 821.4
3	3.7 253.8	5.2 566.0
4	1.9 131.5	2.6 279.2
Array Temperature	78.4	Deg F
Channel		
Base Check (mmho/m)		Field Check (mmho/m)
	Low High	Low High
1	0.0 0.0	17.8 4013.6
2	0.0 0.0	33.4 3653.7
3	0.0 0.0	29.6 3137.2
4	0.0 0.0	20.5 2113.2
Deep	0.0 0.0	17.1 2025.4
Medium	0.0 0.0	43.1 4149.1
Shallow	0.0 0.0	51.7 5432.3
Array Temperature	0.0	96.8 Deg F
Induction Constants MAI-A.A 66		Last Edited on 08-AUG-2012,19:40
Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	6.0000	
Stand-off Fin Angle	60.00	degrees

Stand-off Fin Width		0.5000	inches
Borehole Corr. Rm Source		Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature		
Squasher Start		0.0040	mhos/metre
Squasher Offset		N/A	mhos/metre
Borehole Normalisation			
DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000
Calibration Site Corrections			
Channel 1		0.00	mmhos/metre
Channel 2		0.00	mmhos/metre
Channel 3		0.00	mmhos/metre
Channel 4		0.00	mmhos/metre
Apparent Porosity and Water Saturation Constants			
Archie Constant (A)		1.00	
Cementation Exponent (M)		2.00	
Saturation Exponent (N)		2.00	
Saturation of Water for Apor		100.00	percent
Resistivity of Water for Apor and Sw		0.05	ohm-m
Resistivity of Mud Filtrate for Sw		0.00	ohm-m
Source for Rt		0.00	
Source for Rxo		0.00	

Caliper Calibration MPD-A.A 11

Base Calibration on 24-JUL-2012 10:14
Field Calibration on 08-AUG-2012,19:39

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	19152	4.01
2	27520	5.96
3	36176	7.98
4	44688	9.94
5	53424	11.90
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	8.86	8.83

Photo Density Calibration MPD-A.A 11

Base Calibration on 23-JUL-2012 12:42
Field Check on 08-AUG-2012,19:39

Density Calibration				
Base Calibration		Measured	Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	58001	30635	59869	31110
Reference 2	24376	2748	24557	2522
Field Check at Base				
	1210.5	1305.5		
Field Check				
	1210.3	1304.2		
PE Calibration				
Base Calibration		Measured	Calibrated	
	WS	WH	Ratio	Ratio
Background	217	1059		
Reference 1	20651	57782	0.360	0.369
Reference 2	6291	24213	0.262	0.271
Field Check at Base				
	217.0	1059.4		
Field Check				
	219.3	1065.4		

Density Source Id	p56135b	
Nylon Calibrator Number	dnce633	
Aluminium Calibrator Number	dacd633	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.14	gm/cc
Mud Density Z/A Multiplier	1.11	
Mud Filtrate Density	1.00	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	

Matrix Density (gm/cc)	Depth (ft)
2.71	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

DOWNHOLE EQUIPMENT

C:\Program Files\Weatherford\WLS 13.02\DATA\MCCOY (ERSKINE B 1-32)\MAIN.dta

SHA-D Compact Swivel Head Adaptor
SHA-D 5 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

Compact Comms Gamma
MCG-B 31 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 7 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in



42.81 ft GRGC - Gamma Ray

39.90 ft CGXT - MCG External Temperature

22.10 ft MML-A 7 Micro-normal

Compact Neutron

MDN-A.B 31 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

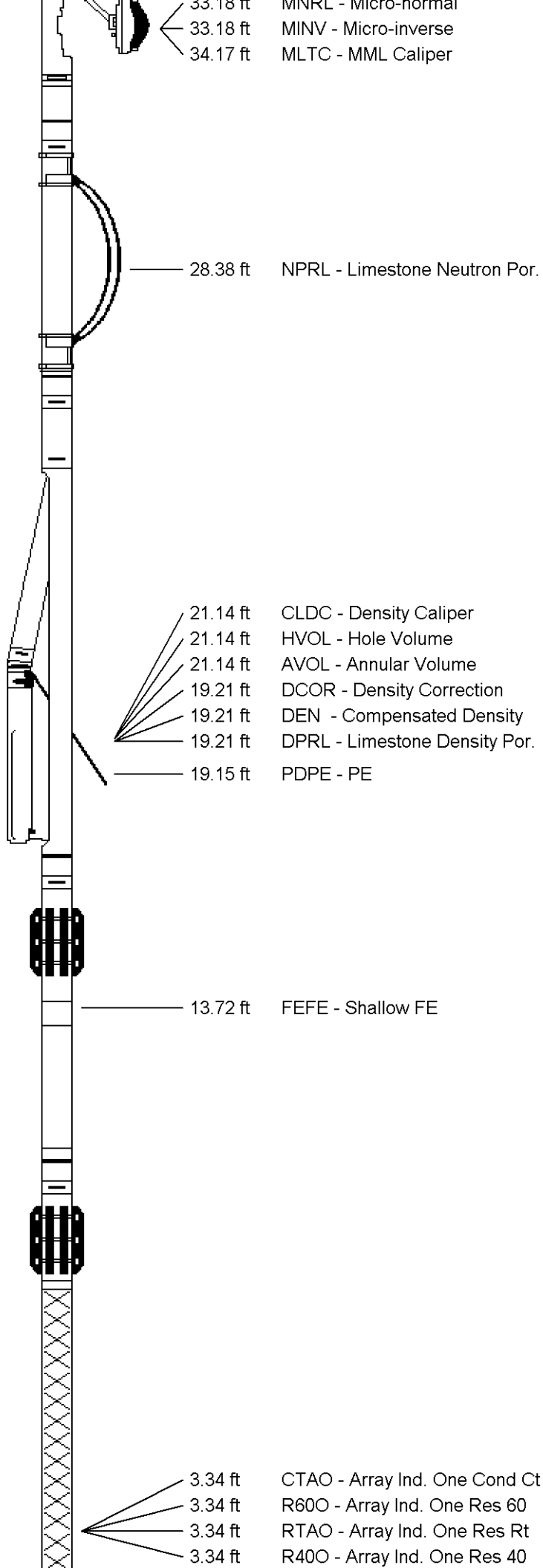
MPD-A.A 11 LG: 9.53 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric

MFE-A.A 54 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction

MAI-A.A 66 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in





Elevation Kelly Bushing	1287.00	feet	First Reading	4375.00	feet
Elevation Drill Floor	1285.00	feet	Depth Driller	4390.00	feet
Elevation Ground Level	1278.00	feet	Depth Logger	4378.00	feet



Weatherford

MCCOY PETROLEUM CORPORATION
WELL ERSKINE "B" #4-3Z
FIELD ERSKINE NORTH
COUNTY SUMNER
STATE USA / KANSAS
660' FNL & 660' FEL
C NE NE

SEC:
API Number
Permit Number

TWP
32
1S-19T-28E1

RCE
3/W

Other Services
MODN/PD
MML

Permanent Datum Q.L. Elevation 1276 feet
Log Measured From RB
Drilling Measured From RB

Elevations:
KB
DF
GL

feet
1287.00'
1285.00'
1278.00'

Date

08-AUG.-2012

Run Number

CONE

Depth Driller

4390.00

feet

Depth Logger

4378.00

feet

Last Reaming

4375.00

feet

Casing Driller

266.00

feet

Casing Logger

266.00

feet

BH Size

7.875

inches

Hole Fluid Type

WB/M

Density/Viscosity
PPt./Fluid Loss

9.50 gr./c.
10.50

54.00 CP
mL/min

Sample Source

N/D FIT

Run @ Measured Temp

0.32 @91.0

ohm-in

Run @ Measured Temp

0.26 @91.0

ohm-in

Run @ Measured Temp

0.38 @91.0

ohm-in

Source Rmtl Run/C

CALC

Run @ BHT

0.23 @972.0

ohm-in

Time Since Circulation

4 HOURS

Max Recorded Temp

130.00

deg F

Equipment Name

COMPACT

Equipment Base

I303R

OVC

Recorded By

JIM SCHILLER

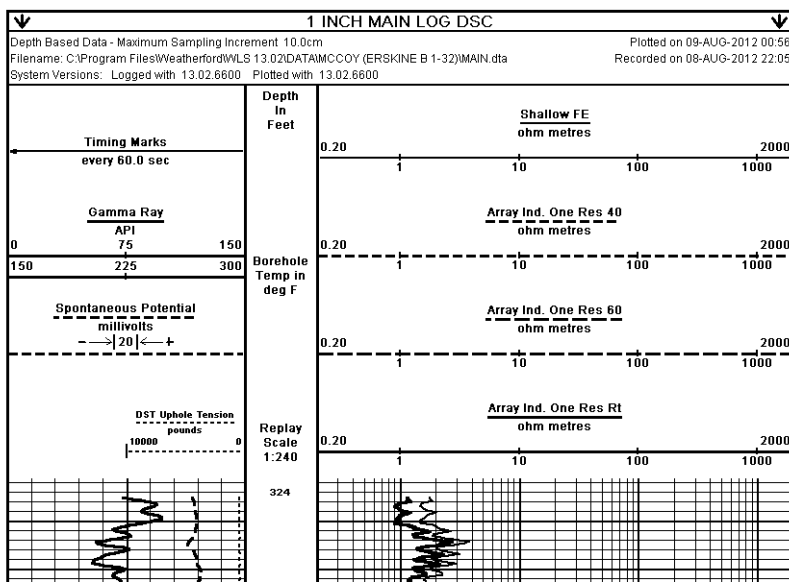
Assessed by

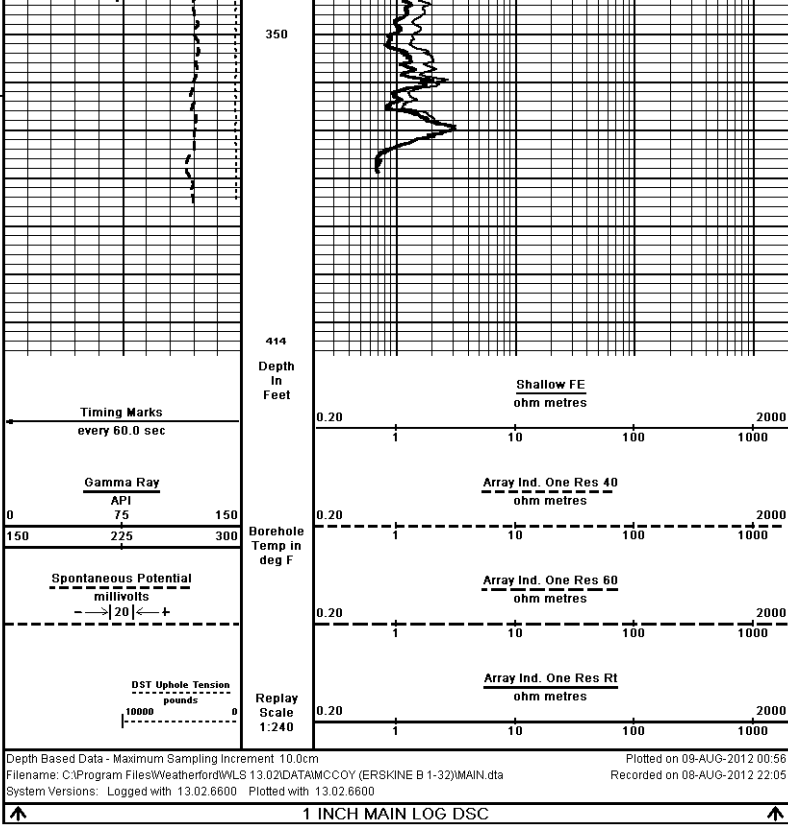
JERRY A. SMITH

Ticket Number

35387.00

JUSTIN SCHEFFE





COMPANY		MCCOY PETROLEUM CORPORATION			
WELL		ERSKINE "B" #1-32			
FIELD		ERSKINE NORTH			
PROVINCE/COUNTY		SUMNER			
COUNTRY/STATE		USA / KANSAS			
Elevation Kelly Bushing	1287.00	feet	First Reading	4375.00	feet
Elevation Drill Floor	1285.00	feet	Depth Driller	4390.00	feet
Elevation Ground Level	1278.00	feet	Depth Logger	4378.00	feet
		ARRAY INDUCTION			
Weatherford		SHALLOW FOCUSED			
		ELECTRIC LOG			